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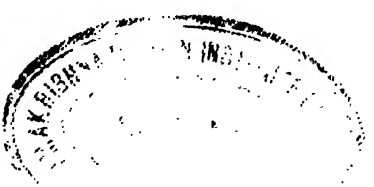

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Higher Education: Regional Dimension*

MOONIS RAZA AND YASH AGGARWAL

Since the dawn of civilisation, education and development have been intrinsically linked through bi-directional causality. This is especially true of higher education, which not only provides the human capital for modernisation of the economy but also the necessary human inputs for the balanced development of the educational system. The accelerated growth of modern industrialisation, unleashed since the beginning of the nineteenth century has brought about a qualitative change in the structure of the work-force by its progressive shift from the primary to the secondary and from secondary to the tertiary sectors of the economy. The period of rapid industrialisation witnessed the integration of the world market, on the one hand, and its fragmentation between the developed countries with high levels of industrialisation and the countries of the third world largely engaged in the production and extraction of primary products.

While in the developed countries of today, the industrial revolution had created conditions wherein the need for a skilled and educated manpower has slowly and steadily led to universalisation of primary education, the accompanying processes of development of under-development in the colonial empires necessiated the persistence of illiteracy in the case of mass of people. This process of essential bi-polar differentiation exerted a profound impact on the educational development as well and led to high magnitudes of international disparities in the levels of educational development between the two. The persistence of low levels of education and high magnitudes of

*Based partly on a study on Higher Education in India : A Survey, prepared for the National Commission on Teachers in Higher Education, India (Published with permission of authors).

disparities therein are an important feature of the third world countries. It is no doubt true that efforts have been made to alter this relationship in a number of ways. Inspite of such efforts the present day inadequacies in their educational system are largely the composite effect of the distortions embedded in the system during the colonial period, on the one hand, and of the infirmities and limitations of the current development strategies, on the other.

The roots of Indian higher education lie deep in antiquity. It is no doubt true that the British let the traditional system continue for the first few decades after gaining political control over various parts of the country, but the pattern of higher education in vogue these days, in its essential characteristics, dates back to the middle of the last century, more specifically the years following the Education Despatch of 1854. The unnatural mixture of fossilized tradition and rootless modernity was concocted in the crucible of colonial India and consequently the policies of colonial India led to the disruption of the indigenous tradition of educational development spread over the millenea and to the fragmentation of the historical continuum.

As the system of alien rule stabilized itself, the universities and colleges in India were assigned triple functions. Intellectually to familiarise the students and through them the local population with European thought, relatively disentangled from the shackles of eccleciastical epistemology, culturally, to transmit and propogate the cultural values and norms specific to Britain, and politically, to produce a class of collaborating clerks and policemen for the various levels of the colonial administration. Institutes of higher education were given formal structures basically with these ends in view. The consolidation of British Colonial rule was thus accompanied by a process of decisive break in the historical continuity of the Indian educational tradition.

The basic thrust of the development models adopted by different countries during the first and second development decades was on growth, for example, *a la* Harrod Domar model. The limitations of the growth models as a tool of socio-economic planning in the context of developing countries of the third world became evident during the seventies as the 'growth' of many countries was not only slow and failed to usher in the desired results but was also accompanied by the accentuation of intra and inter-regional disparities. The emphasis in planning, therefore, has now shifted from *growth* to *growth with equity*, which is now considered to be one of the major goals of social planning in many developing countries.

It did not take many years to recognise the bi-directional linkages between education and socio-economic development and to identify the former as a crucial input in to the latter to achieve the goals of socio-economic development. It was in this context the Indian planner have been emphasising balanced regional development and the removal of regional imbalances and inequities as one of the major objectives of regional planning ever since the inception of planned development. The First Five Year Plan, while taking note of the existing intra and inter-regional imbalances, underlined the need

for the equitable distribution of educational opportunities in specific terms and referred to it as one of the major targets of educational planning in India. During the last three decades of planned development the emphasis was not only on the expansion of educational facilities at different levels but also on strengthening the scientific and technological content therein. With a view to achieve these objectives, special schemes were formulated for removing regional imbalances and inequities in the educational development of different social groups. The provision of special grants for educationally backward states and incentive schemes for scheduled castes, scheduled tribes and other backward classes fall in this category.

The interest in the analysis of regional disparities in educational development of different social groups and its variations across space is in fact not a new one. In this context, the analysis of aggregated data is essentially of an exploratory nature. Such an analysis, though quite helpful in comprehending the main attributes of the situation, tends to hide important regional variations. The specificity is of special significance as the problems of imbalances are deeply rooted in the regional sub-systems and any generalised strategy would just not work anywhere. It is, therefore, unfortunate that the problems of identification, measurement and explanation of these variations and imbalances in the sphere of education have not been adequately probed either by the social scientists or by educational planners. Since remedial action for the minimization of disparities can be effectively undertaken within a regional frame; the need for detailed investigation at a disaggregated level cannot be over emphasized. In order to develop an understanding of these variations in disparities and imbalances, we have, in this paper, undertaken the analysis of the following five aspects of regional variations in the development of higher education in India:

(i) Spatial spread of higher education;
(ii) Faculty-wise enrolments;
(iii) Stage-wise enrolments;
(iv) Enrolment of the scheduled castes, and
(v) Male-female differentials in enrolment.

The Analytical Frame

For the purpose of this study the unit of analysis has been carefully selected. There were three options available to us in terms of the use of disaggregated data—state level, district level and N.S.S. region level. It may be noted that the States as the unit of analysis for examining different aspects of regional disparities in higher education would be quite unsuitable because of their internal heterogeniety both in terms of the elements of diversity and disparity. It may not be meaningful to club Chota Nagpur Plateau with the North Bihar Plains or Gujarat Plains with Saurashtra. The same can be said with equal force about the magnitude of disparities within the boundaries of states. How does one, at any level of rationality, club together Jaisalmer

and Jaipur, Burdwan and Siliguri or Meerut and Ghazipur.

The other alternative is to consider the district as the unit of analysis. This is particularly true as more and more emphasis is now being laid on district level planning. The district as an administrative unit of Indian polity has a particular vitality. It is at this level that the emphasis shifts from the system of vertical linkages of sectoral planning to the system of horizontal linkages of regional planning. Working with a district as a unit of analysis was quite tempting. However, it would not have permitted us a meaningful comparison between the indices of college and university education in India, which has been the main focus of enquiry in this paper. This would be particularly true in view of the fact that a proportionately large number of districts do not have universities. It was, therefore, considered advisable to work with the 77 National Sample Survey regions (NSS) which are fairly homogeneous in terms of their ecological set up and are generally not marked by intra-regional disparities of high order. We have considered the classification of NSS regions corresponding to the year 1981.

The enrolment data corresponding to the year 1980-81 has been used in the present study. Districtwise data on stagewise and facultywise enrolments was obtained from the University Grants Commission separately for the affiliated colleges getting grant in aid under section 2f and for the universities and their teaching departments. The data relating to university and college enrolments was separately aggregated at the level of NSS regions. The two sets of data were pooled together to generate the variables for the system of higher education as a whole. The districtwise data on the enrolment of scheduled castes was unfortunately not available for 1980-81. In their case the latest districtwise data was available for the year 1977-78 for which year district level data of total enrolment was not available.

The following Table indicates different levels of aggregation of enrolment data:

Stage wise	— Total enrolment
	— Under-graduate enrolment
	— Post-graduate enrolment
	— Research enrolment
Sexwise	— Male
	— Female
Facultywise	— Arts (including Oriental Learning)
	— Science
	— Commerce
	— Education
	— Engineering/Technology
	— Medicine
	— Agriculture/Verterinary Science
	— Law
	— Others

More specifically, with a view to bring out the regional aspects of higher education in India, the following indicators relating to the colleges, universities and for the total system of higher education have been derived for all the NSS regions and have been presented in the form of different tables and maps.

Variable No.	*Description*
1.	Enrolment per lakh of population
2.	% Women in total enrolment
3.	% Enrolment in post-graduate and research to total enrolment
4.	% Enrolment in arts to total enrolment
5.	% Enrolment in science to total enrolment
6.	% Enrolment in commerce to total enrolment
7.	% Enrolment in engineering/technology to total enrolment
8.	% Enrolment in medicine to total enrolment
9.	% Women enrolment in arts to total women enrolment
10.	% Women enrolment in science to total women enrolment
11.	% Women enrolment in commerce to total women enrolment
12.	% Women enrolment in engineering/technology to total women enrolment
13.	% Women enrolment in medicine to total women enrolment
14.	% Women enrolment in arts to total enrolment in arts
15.	% Women enrolment in science to total enrolment in science
16.	% Women enrolment in commerce to total enrolment in commerce
17.	% Women enrolment in engineering/technology to total enrolment in engineering/technology
18.	% Women enrolment in medicine to total enrolment in medicine.

In addition to this the coefficient of equality has been used to examine the spatial variations in the spread of higher education among scheduled caste population in India.

Spatial Spread of Higher Education

It may be noted that on the eve of independence, the system was quantitatively microscopic as well as inadequate and qualitatively anaemic as well as dysfunctional, constraints of such a situation did not permit an option between quantity and quality. Adequate and rapid expansion of the inherited miniscule was necessary in view of firstly, the need for import substitution in the field of the intellect and the building up of a self-reliant academic structure; secondly, the projected needs of planned economic development; and thirdly, the pressure from those who were denied higher education for centuries but who saw the possibility, however distant and difficult, of acquiring a university degree which is wrongly or rightly regarded as a passport to a comfortable white collar job.

In an analysis of the location of the institutes of higher education in India during the colonial period, it has been shown that on the eve of Independence, the location of institutions of higher learning were highly enclavised and consequently there were large inter-regional variations in the availability of educational facilities to the people of different regions in India. During the last three decades of planned development efforts have been made to alter this structure by opening institutions of higher education in educationally backward and isolated areas. This is in accordance with the policy of balanced regional development adopted by the policy planners in India.

The findings of our earlier analysis presented in a study for the National Commission on Teachers*, have shown that the enrolment in higher education has grown at a considerably high rate especially during the sixties and mid seventies. Consequently, the number of universities (including institutions deemed universities) increased from 27 in 1950-51 to 150 in 1984 and the number of colleges increased from 772 in 1955-56 to 5246 in 1983-84. Such an expansion was made possible by a substantial increase in the educational budget. The expenditure on education increased from Rs. 55 Crores in 1947 to Rs. 5,186 Crores in 1982. In terms of per capita expenditure on education, the increase has been from Rs. 2.10 to Rs. 74.00. Looking at the higher education sector one finds that its expansion was highly varied both across time and space and the facilities for higher education are neither spread across space uniformally nor are they available to the same extent to different social groups in the same region. A preliminary exploration in this direction has been made by considering the spatial spread of universities and colleges in India. A university is considered to be a nodal location from which the impulses of educational development are transmitted to the surrounding areas. It is in this context that the location of a university has been considered to be an important input for balanced regional development. Figure 1 **presents the location of universities in different NSS regions of India. It is observed that there are as many as 20 NSS regions without a university. Among the 9 Union Territories only two i.e. Delhi and Chandigarh have universities whereas the remaining 7 do not have any university. In terms of college education, the position is better but is also quite unsatisfactory. While, by and large, every region has some facility for college education, the regional variations in the availability of such facilities are considerable. These inadequacies in the regional spread of higher education notwithstanding, the inherited structure of enclavised educational facilities has undergone significant changes along desired lines.

The location of universities and/or that of colleges is a crude indicator for examining regional imbalances in the spatial spread of higher education. With a view to further probe into this phenomenon and to neutralize the size effect of the regions, we have calculated enrolment per lakh of population

*Moonis Raza, Y.P. Aggarwal & Mabud Hasan (1984); Higher Education in India—A Survey, National Commission on Teachers-II, New Delhi.

** See Figures at the end of this Journal.

for higher education as a whole and for college and university levels separately. The value of this indicator would bring out the ability of a region to participate in the process of higher learning. Appendix 1 presents enrolment per lakh of population for the college level and for higher education as a whole in the NSS regions in India. The spatial pattern of total enrolment per lakh of population is shown in Figure 2*, and of college enrolment in Figure 3*. The following generalisations may be abstracted from the table and figures.

The spatial variations in enrolment per lakh of population are very large. It varies from 61 in Arunachal Pradesh to as high as 5366 for Chandigarh. The all India average number of students enrolled per lakh of population comes to about 400. There are a large number of regions in which the enrolment per lakh of population is less than this. There are only a few regions especially along the West coast, North East and the region comprising Calcutta, Delhi and Madras metropoles and the Union Territory of Chandigarh for which this indicator takes a value of more than 800. It may be noted that there are two types of regions falling in this group. The first type corresponds to regions which because of low density get high value of enrolment per lakh of population whereas the others get high value of this indicator because of the concentration of a large number of institutions therein. Some of the regions from North-East states fall in the former, whereas the regions along the West and East coast fall in the latter category. It may be also noted that the areas corresponding to low values of the index correspond to the educationally backward states. The position with respect to college education is somewhat different. In their case it has been found that the areas with the low levels of enrolment correspond to Western Rajasthan, outer hills of Jammu & Kashmir, Eastern Maharashtra and Arunachal Pradesh.

It follows from the above, that there are wide regional variations in the availability and utilization of the facilities for higher education in India. There are large areas in which such facilities do not exist at all. People from these areas have to go to the neighbouring regions for their higher education even though it is of the general type which is available in plenty in large cities. It is no doubt true that the enclavised character of higher education in India has changed to some extent during the last three decades of planned development, but the position is still far from satisfactory. The following facultywise analysis of enrolment across regions would bring out the fact that disparities are not only in the quantity but particularly in the type of education.

Facultywise Enrolment

After having examined the spatial variation in the spread of higher education in India, let us probe into the facultywise pattern of enrolment. Such a structural analysis would bring out the extent of distortion in the

*See Figures at the end of this Journal.

educational development in different regions. It is expected that there would be an association between the nature of educational development in a region and the characteristics of its economic base. Facultywise analysis of enrolment would be crucial in understanding the nature of education=manpower linkages in the regional context and the possible mismatch therein. Appendix 2 and Appendix 3 present the regional distribution of facultywise enrolment. The corresponding spatial patterns are represented in Figure 4 and Figure 5. The following points are worth noting from the data presented in these tables and maps:

(i) There has been a shift from arts to the commerce faculty in many parts of the country. This may have been due to increased employment opportunities for commerce graduates in these regions. The share of enrolment in commerce (colleges) has been found to be very large in many regions of the country. In a large number of regions, it is even higher than the share of enrolment in arts. This is particularly true of coastal Andhra, eastern and northern plains of Gujarat and the coastal and inland regions of Maharashtra.

(ii) The share of enrolment in science to total enrolment is also showing large inter-regional variations. It varies from as low as nearly 3 per cent in dry areas of Gujarat to as high as nearly 40% in inland Tamil Nadu. There are 11 regions in which the share of science subjects is less than 10%.

(iii) Some regions have a significantly large share of enrolment in art subjects only.For example, in Assam Hill there is only arts enrolment. The regions having more than 60% of their enrolment in art subject are Western Haryana, all regions of Himachal Pradesh, outer hills—Jammu & Kashmir, Manipur, Meghalaya, Nagaland, northern & western Punjab, Tripura, eastern and southern Uttar Pradesh, Andaman and Nicobar and Arunachal Pradesh. These are generally less developed areas.

(iv) There are wide inter-regional variations in engineering and medical enrolment. 25 regions do not have either an engineering or a medical college. There are as many as 15 regions which have neither of them. It may thus be observed that inspite of the crucial importance of the professional component in higher education, its regional spread continues to be quite inequitious.

Inter-regional Variations in Stagewise Enrolments

Stagewise analysis of enrolment in the regional context is of considerable significance as it brings out the essential features of the structure of the educational pyramid. Relatively less developed regions have a pyramid with a heavy base and a tapering top. They will have to depend upon other regions, with pyramids approximating the cylindrical shape, for specialized R&D competence. It would be the later, which would provide the leadership role

and would emerge as the exporter of its technical and specialised manpower to other deficit regions. A crude indicator of the multi-level structure may be the size of the postgraduate and research in total enrolment. The share of post-graduate and research in college and in higher education as a whole has already been presented in Appendix 1. The corresponding spatial patterns are depicted through Figure 6. It may be noted that in more than ten regions, the facilities for post-graduate education are conspicious by their absence. The most prominent cluster with high share of post-graduate and research enrolment compiises Western and Central Uttar Pradesh, Inland Central and Inland Eastern Maharashtra, Northern Orissa and the union territories of Chandigarh and Delhi.

It is interesting to note that in some cases, the educationally advanced states like Kerala and Maharashtra do not have high proportion of enrolment in post-graduate and research, whereas some of the educationally backward states have recorded high values of this ratio. It may appear to be paradoxical that the so called educationally advanced state have a lower content of post-graduate while some of the educationally backward states have high ratio of this indicator. This calls for a critical assessment of the relevance of post-graduate education to the development process and the dyfunctional linkages between the two.

Male-Female Differentials

Caught in the web of the distortions of the inherited structure, policy making in the sphere of education during the earlier years after achievement of freedom had to respond to the seemingly contradictory demands for education of the masses (equity) and for education of a high standard and 'best' utilisation of resources (efficiency). At the dynamics of growth it was neither possible nor desirable to accede to one to the exclusion of the other. Properly understood it may be stated that within a long range perspective, equity and efficiency are complimentary and not contradictory to each other. If the educational level of a large section of the work force is low, the efficiency level of the work force as a whole is bound to be low. Protective discrimination, as a measure of equity, is therefore simultaneously a measure for higher levels of efficiency. In the short run, however, it may sometimes happen that equity and efficiency get inversely related. The trade off, therefore, is not between equity and efficiency but between short and long term assessment of efficiency. Only the myopic and the shortsighted would advocate the sacrifice of long term gains at the altar of immediate growth. Only the fanatic and the doctrinaire would close their eyes to the problems of the present. The social concerns for equity and efficiency can, therefore, be only handled together, each one sustaining and be sustained by the other. In the following paragraphs we shall examine some of these aspects in detail.

Male-female disparities in educational development are quite significant in most of the developing countries. In view of the socio-economic structure of contemporary India, regional variations in terms of women participation

in higher education is expected to be of a higher order. The percentage share of women in total as well as college enrolment has been tabulated in Appendix 1. The corresponding spatial patterns have been presented in Figure 7 and Figure 8. The facultywise distribution of women enrolment has also been presented in Appendix 4 and Appendix 5.

Women participation in higher education shows large variations across regions. There are only a few regions in which the share of women enrolment to total enrolment is more than 35%. The regions with higher proportion of women enrolment are the union territories of Delhi and Chandigarh, Coastal Maharashtra, Southern Kerala, Inland Karnataka and Saurashtra in Gujarat. These figures might create the impression that the situation with respect to women education is quite satisfactory. However, it has been observed that the share of women enrolment in areas of high enrolment is very low. Thus the overall position with respect to women education is not very satisfactory.

It may be noted that with the exception of a few regions, the proportion of women going to university education is less than the proportion of girls to colleges. Even in the colleges the emphasis of women students is on art subjects rather than on commerce or science. There are about 30 regions—mostly from educationally backward states—in which more than two-third of women enrolled are undergoing studies in arts subjects only. An analysis of the women's share in the enrolment of different faculties (Appendix 6 and7) has also shown that in regions of high enrolments the share of women enrolment in arts faculties is very high. A perusal of Figure 10 illustrates this point very well. Eastern Gujarat. Coastal Maharashtra, Western & Central U.P., Southern Kerala and Central Plains of West Bengal have more than 50 per cent of the total women enrolment in colleges in arts faculties only.

The foregoing analysis shows that the position with respect to women education is not very satisfactory. Even in those regions wherein their relative share seems to be high, the emphasis is only on the traditional subjects in arts faculties. There is thus an immediate need for bringing about structural changes in women education. The relative deprivation of women in the field of education is particularly significant because it underlines all other attributes of deprivation. The scheduled caste are deprived, no doubt, but the scheduled castes women are more deprived than their men folk. The rural population are deprived, no doubt; but rural women are more deprived than their men-folk. A movement for women's education in the Indian social context is, therefore, very much more than a movement for women's education. It strikes at the very roots of the parasitic system of social inequities interwining the Indian polity, continuously sucking out its life blood and rendering it anaemic and weak. Women's education is an instrument of liberation not only of women but of Indian society as a whole.

Scheduled Caste Enrolment: The Regional Dimension

Inequities between the educational levels of different social groups have

been both the cause and the effect of the differentials between their levels of socio-economic development. Concern for equity in education, therefore, stems not only from a moral commitment to the deprived but from the view point of nation building as well. A human resource development strategy calls for the maturation of the innate capabilities of all segments of the population with a view to their optimal utilisation. Special efforts have been made since Independence to extend the benefits of higher education to weaker sections of society and particularly to the scheduled castes and scheduled tribes. As against a share of 15% in the total population, the share of the scheduled caste in enrolment barely touches the half of it. It is, however, encouraging to note that their enrolment has increased at a faster rate as compared to that of the non-scheduled population. Its compound growth rate from 1964-65 to 1977-76 was 11.6% as compared to 7.9% for total enrolment. As a result, the share of scheduled caste enrolment in general education has increased from 5.5 to 7.7% and for professional education from 4.3 to 6.8% during this period. The gap has narrowed down, no doubt, but it is still quite wide.

The spatial distribution of spread of higher education among scheduled castes is discussed below.

District-wise data for 1977-78 has been utilised for calculating coefficient of equality of scheduled caste enrolment in higher education. The coefficient of equality is defined as follows.

$$\text{Coefficient of equality} = \frac{\%\ \text{S.C. enrolment}}{\%\ \text{S.C. population}}$$

Figure 10 presents the spatial pattern of the coefficient of equality. It may be observed from the map that there is only one cluster of districts, covering parts of Maharashtra, which has very high coefficient of equality and it may be inferred that the spread of higher education among scheduled castes is quite satisfactory in this region.

The districts with the value of the coefficient varying from 50% to 100% are located along the east coast and some parts of Gujarat, Uttar Pradesh and Maharashtra. These regions may be considered to have a fair spread of higher education among the scheduled castes. The most backward regions with respect to education among scheduled castes are Western and North Eastern Rajasthan, Northern and Central Madhya Pradesh, Coastal Tamil Nadu, all regions of Karnataka excepting Coastal all regions of Bihar and whole of Orissa.

Any enquiry into the spread of education among scheduled castes would remain incomplete if we do not consider the spread of their enrolment over faculties and specifically the position of the spread of higher education among scheduled caste women. With this end in view the following analysis based on statewise data has been undertaken.

The statewise analysis of the percentage of scheduled caste female, enrolment to total enrolment of scheduled castes in general and professional courses in particular is given in Table 1. High regional variations in their

enrolments is quite evident therein. The extent of inter-state disparities in female scheduled caste enrolment have also been examined in terms of its location quotient. The location quotient is defined as follows:

$$\text{Location Quotient} = \frac{\%\text{ S.C. enrolment in the state}}{\%\text{ S.C. enrolment of the nation}}$$

The values of location quotients for the general and professional education are given in Table 2. It may be noted that out of 31 states and union territories, only 9 have location quotient greater than unity. Some of the educationally backward states have very low value of the location quotient for female education. The extent of disparities in educational development of scheduled caste females as compared to scheduled caste males have also been examined with the help of coefficient of equality and the results have been presented in Table 3. An exemption of Table 3 reveals that the scheduled caste females are lagging for behind their male counterparts in the sphere of higher education. The ranking of the equality indices for the three reference period do not show any significant variation. The data thus clearly suggests that inspite of the massive efforts made during the last 30 years, the male female disparities within the scheduled castes have also continued to persist.

Regional Disparities: A Comparative Analysis

A survey on higher education would remain incomplete if we ignore the spatial variations in the distribution of facilities for higher education and some other related indices. In order to develop an understanding of such variations we have undertaken the following analysis. The statwise data corresponding to the year 1975-76 has been used and the selected indices for this purpose are:

(i) Number of institutions per 1000 population (16-26 years age group);
(ii) Enrolment of Students in higher education per 1000 population (16-26 years age group);
(iii) Teacher/worker ratio bringing into focus the importance of teaching occupation in the work force; and
(iv) Direct expenditure per student.

Inter-state variations in the four indices are presented in Table 4. The examination of statewise values of the selected indicators provide enough evidence to show that there are large regional variations in terms of different measures of educational development. The educationally backward states are getting very low values in terms of all the three indices of educational development. It may be noted from the Table 4 that the union territory of Chandigarh happens to have the highest values for all the three indices of educational development. This is so in view of the fact that it is a city with a very large number of institutions of higher education.

Table 1

PERCENTAGE OF FEMALE SCHEDULED CASTE ENROLMENT TO TOTAL SCHEDULED CASTE ENROLMENT

	General Higher Education			*Professional & Other Education*		
States/U.Ts.	*1964-65*	*1971-72*	*1977-78*	*1964-65*	*1971-72*	*1977-78*
A.P.	10.72	23.44	22.98	21.50	10.38	18.52
Assam	12.45	15.95	20.30	0.93	8.04	16.38
Bihar	1.15	2.29	4.22	3.84	5.38	6.11
Gujarat	7.74	11.86	13.30	2.06	4.39	8.63
Haryana	—	4.65	5.82	—	4.48	11.77
H.P.	17.39	9.32	12.00	10.77	34.87	8.87
J&K	3.55	8.94	15.29	5.26	7.75	13.78
Karnataka	10.58	10.12	15.73	9.72	12.62	23.19
Kerala	28.01	37.91	46.98	36.27	27.24	29.84
M.P.	3.64	6.37	9.54	3.60	3.23	7 78
Maharashtra	8.73	14.67	14.74	4.62	8.38	20.67
Manipur	6.25	23.21	26.91	—	14.29	14.71
Meghalaya	—	33.33	31.65	—	7.14	8.51
Orissa	3.44	5.18	6.66	2.65	6.83	9.48
Punjab	4.31	7.14	13.70	13.89	13.56	24.98
Rajasthan	1.73	1.17	2.73	1.94	1.74	3.48
Tamil Nadu	15.91	17.48	24.24	27.31	27.89	19.29
Tripura	5.96	14.59	20.04	0	4.19	8.95
U.P.	4.25	8.33	6.84	4.16	6.36	10.73
West Bengal	9.92	16.04	15.36	4.41	6.67	11.79
Chandigarh	—	8.82	17.01	—	13.92	16.13
Delhi	6.46	14.54	23.70	22.22	6.37	13.32
Goa, Daman & Diu	—	26.67	22.00	—	0	23.53
Pondicherry	0	12.33	17.18	42.86	21.84	28.24

Table 2

STATEWISE DISTRIBUTION OF LOCATION QUOTIENTS OF SCHEDULED CASTE FEMALE ENROLMENT

	General Higher Education			*Professional & Other Education*		
States/U.Ts.	*1964-65*	*1971-72*	*1977-78*	*1964 -65*	*1971-72*	*1977-78*
A.P.	1.38	1.86	1.68	1.87	1.07	1.25
Assam	1.60	1.27	1.48	0.08	0.83	1.10
Bihar	0.15	0.18	0.33	0.33	0.55	0.41
Gujarat	0.99	0.94	0.97	0.18	0.45	0.58
Haryana	—	0.37	0.43	—	0.46	0.79
H.P.	2.23	0.74	0.88	0.94	3.60	0.93
J&K	4.31	0.71	1.57	0.46	0.80	0.93
Karnataka	1.36	0.80	1.15	0.85	1.30	1.56
Kerala	3.60	3.01	3.44	3.16	2.81	2.01
M.P.	0.47	0.51	0.70	0.31	0.33	0.52
Maharashtra	1.2	1.16	1.08	0.40	0.46	1.39
Manipur	0.80	1.84	1.97	—	1.47	0.99
Meghalaya	—	2.64	2.32	—	0.74	0.57
Orissa	0.44	0.41	0.49	0.23	0.70	0.64
Punjab	0.55	0.57	1.00	1.21	1.40	1.68
Rajasthan	0.22	0.09	0.20	0.17	0.18	0.23
Tamil Nadu	2.05	1.39	1.77	2.38	2.87	1.30
Tripura	0.77	1.16	1.47	0	0.43	0.60
U.P.	0.54	0.66	0.50	0.36	0.65	0.72
West Bengal	1.27	1.27	1.12	0.38	0.69	0.79
Chandigarh	—	0.70	1.24	—	1.44	1.09
Delhi	0.83	1.15	1.73	1.93	0.66	0.90
Goa, Daman & Diu	—	2.12	1.81	—	0	1.59
Pondicherry	0	0.98	1.26	3.73	2.25	1.90

Table 3

STATEWISE DISTRIBUTION OF COEFFICIENT OF EQUALITY FOR SCHEDULED CASTE FEMALES

	General Higher Education			*Professional & Other Education*		
States/U.Ts.	*1964-65*	*1971-72*	*1977-78*	*1964-65*	*1971-72*	*1977-78*
A.P.	21.34	46.79	45.98	42.77	20.72	36.97
Assam	26.13	33.46	42.57	1.97	16.86	34.35
Bihar	2.21	4.57	8.43	7.36	10.73	12.20
Gujarat	15.41	23.86	26.77	4.11	8.84	17.37
Haryana	—	9.64	12.07	—	9.30	24.42
H.P.	34.97	18.08	23.28	21.65	67.64	17.20
J&K	67.27	17.81	30.47	10.55	15.43	27.45
Karnataka	21.34	20.59	32.00	19.61	25.67	47.19
Kerala	54.07	73.13	90.62	70.03	52.56	57.57
M.P.	7.33	13.08	19.58	7.34	6.63	15.96
Maharashtra	17.65	29.69	29.83	9.34	16.96	41.82
Manipur	12.98	51.81	60.00	—	31.89	32.82
Meghalaya	—	75.50	71.68	—	16.18	19.28
Orissa	6.84	10.32	13.28	5.28	13.63	18.91
Punjab	9.12	15.04	28.87	29.10	28.57	52.65
Rajasthan	3.55	2.41	5.62	3.98	3.59	7.17
Tamil Nadu	31.36	34.54	47.90	53.82	55.11	38.13
Tripura	12.13	29.80	40.93	—	8.56	18.29
U.P.	8.55	17.21	14.13	8.37	13.13	2.16
West Bengal	20.92	34.20	32.77	9.29	14.23	25.15
Chandigarh	—	21.44	41.37	—	33.86	39.22
Delhi	15.09	33.37	54.39	51.89	14.63	30.56
Goa, Daman & Diu	0	54.53	44.98	—	—	48.11
Pondicherry	0	24.39	33.99	84.72	43.21	55.88

Table 4

QUANTITATIVE INDICATORS FOR HIGHER EDUCATION DEVELOPMENT

State/Union Territory	*Institutions per 1000 pop. (16-26 Years)*	*Enrolment of student per per 1000 pop. (16-26 Years)*	*No. of Teachers per 1000 workers*	*Direct Expenditure per student*	*Composit Index of Development*
Andhra Pradesh	0.0567	24.69	0.7308	810.21	2.8102
Assam	0.0465	23.17	0.8739	699.90	2.5884
Bihar	0.0448	23.43	0.6448	558.60	2.2841
Gujarat	0.0579	30.60	1.0411	893.81	2.2648
Haryana	0.0611	36.97	1.3572	896.20	3.6821
Himachal Pradesh	0.0730	20.74	0.6944	1222.52	3.2494
Jammu & Kashmir	0.0650	26.29	1.0998	891.54	3.2890
Kerala	0.1048	66.17	1.5567	568.08	4.9237
Madhya Pradesh	0.0524	23.32	0.6132	696.75	2.5192
Maharashtra	0.0126	7.30	1.0781	765.84	1.8373
Mysore	0.0697	33.74	1.0467	715.97	3.3489
Manipur	0.1138	46.63	1.2242	379.77	4.1295
Nagaland	0.0369	9.16	0.1946	114.16	1.0442
Orissa	0.0386	14.38	0.5300	944.45	2.2716
Punjab	0.0645	39.57	1.3646	886.93	3.7992
Rajasthan	0.0461	18.38	0.8154	1207.61	2.9394
Tamil Nadu	0.0510	26.58	0.9326	813.18	2.0917
Tripura	0.0503	22.15	0.9573	857.72	2.8318
Uttar Pradesh	0.1013	23.58	0.9425	636.97	3.4070
West Bengal	0.0612	41.35	1.2887	680.18	3.5382
A.N. Islands	0.0716	6.48	0.3734	1014.08	2.5330
Chandigarh	0.255	295.97	6.2064	2305.19	24.1926
Dadra and Nagar Haveli	—	—	—	—	—
Delhi	0.0976	95.33	4.5270	1681.13	9.5664
Goa, Daman & Diu	0.0731	31.46	1.6161	1828.21	4.8423
L.M.&A. Islands	—	—	—	—	—
N.E.F.A.	0.0223	1.69	0.1150	2408.93	2.9341
Pondicherry	0.1213	42.62	3.9355	1809.38	8.2948

We have also tried to capture the overall picture of levels of higher education by compositing the four indicators that have been discussed earlier. Such a picture gives an approximate account of the existing pattern of education in various states. It shows the differences in the level of development of higher education, especially in those states where development has been arrested by a number of socio-economic and political factors. For the purpose of analysis, a composite index in respect to four variables has been computed. The four types of indices were first standardised and equal weights were attached to all the four indicators to arrive at a compsite index of development of higher education in different states.

It has been noted that the composite index of educational development also corresponds to the levels of literacy in these states. Some of the states having low levels of educational development are also characterised by the persistence of poverty, low levels of consumption, low levels of urbanization and lack of infrastructural facilities.

Surveying the educational progress, one finds that there exist great imbalances in higher education. It seems that expansion of higher education in certain areas has taken place at an increasing pace. But these islands of development having affluent academies, reflect the process of the impounding of the impulses of growth in pockets. Efforts have, no doubt, been made to alter this structure during the last thirty years of planned development, but the situation continues to be quite serious. It thus appears that the problems of educational development are intrinsically related to different aspects of socio-economic structure and the development process as a whole and a narrow sectoral approach of educational planning would not go far in achieving the objectives of 'growth with equity'.

Appendix 1

ENROLMENT IN HIGHER EDUCATION : SOME BASIC INDICATORS 1980-81

State *Region*	*Enrolment per Lakh Population*		*%Women*		*%Postgraduate/ Research*	
	College	*Total*	*College*	*Total*	*College*	*Total*
ANDHRA PRADESH						
1. Coastal	394	450	27.0	24.7	2.80	9.2
2. Inland Northern	269	384	32.5	27.4	2.48	9.3
3. South Western	350	350	24.0	24.0	.72	0.7
4. Inland Southern	1,850	1,923	25.4	23.7	.59	14.3
ASSAM						
5. Plains Eastern	*		30.4	29.2	.64	5.1
6. Plains Western	*		21.5	8.2	1.73	10.1
7. Hills	*		18.1	18.1	—	—
BIHAR						
8. Southern	105	319	17.0	27.2	.38	7.7
9. Northern	126	218	8.4	18.0	5.27	10.1
10. Central	101	313	18.4	15.1	—	—
GUJARAT						
11. Eastern	381	402	34.4	34.0	2.42	7.4
12. Plains Northern	657	710	36.3	34.8	4.37	10.5
13. Plains Southern	160	531	28.6	31.6	2.72	9.5
14. Dry Areas	154	154	44.4	44.4	—	—
15. Saurashtra	206	249	33.7	39.4	.86	5.9
HARYANA						
16. Eastern	676	756	38.3	35.6	5.13	11.0
17. Western	526	566	25.1	24.7	6.29	8.4
HIMACHAL PRADESH						
18. Himachal Pradesh	369	434	27.0	25.2	.36	10.9
JAMMU & KASHMIR						
19. Mountainous	485	599	44.4	43.4	.16	16.5
20. Outer Hills	78	78	41.0	41.0	—	—
21. Jhelum Valley	437	476	17.0	35.9	.48	9.9
KARNATAKA						
22. Costal and Ghats	1,163	1205	33.3	32.0	1.72	3.0
23. Inland Eastern	450	450	30.4	39.4	—	—
24. Inland Southern	887	1005	40.4	34.5	1.02	10.4
25. Inland Northern	582	624	18.6	18.6	.48	6.5
KERALA						
26. Northern	616	623	37.4	37.4	7.42	9.9
27. Southern	1,266	1266	53.1	53.7	7.73	9.7

Appendix 1 (*Contd.*)

State *Region*	*Enrolment per Lakh Population*		*% Women*		*% Postgraduate/ Research*	
	College	*Total*	*College*	*Total*	*College*	*Total*
MADHYA PRADESH						
28. Chhatisgarh	276	280	25.3	25.3	9.90	11.0
29. Vindhya	226	227	14.5	14.4	12.55	13.0
30. Central	485	595	10.7	12.2	14.00	19.4
31. Malwa Plateau	471	540	29.6	27.7	12.27	15.1
32. South Central	416	475	28.3	26.8	8.10	13.3
33. South Western	267	267	24.6	24.6	13.38	13.4
34. Northern	495	501	21.7	21.9	11.18	12.0
MAHARASHTRA						
35. Coastal	846	892	53.3	53.8	5.28	9.2
36. Inland Western	529	568	26.0	25.6	9.01	12.6
37. Inland Northern	350	350	23.0	23.0	12.00	12.0
38. Inland Central	311	342	15.2	15.1	18.40	22.9
39. Inland Eastern	431	491	26.3	25.7	12.79	15.0
40. Eastern	197	197	23.9	23.9	14.52	14.5
MANIPUR						
41. Plains	*		*		*	*
42. Hills	1,133	3272	34.6	34.6	*	*
MEGHALAYA						
43. Meghalaya	881	977	36.5	34.9	—	17.5
NAGALAND						
44. Nagaland	388	388	24.0	24.0	—	—
ORISSA						
45. Coastal	524	580	14.6	16.4	5.70	11.2
46. Southern	101	107	13.2	13.2	1.63	1.6
47. Northern	365	384	13.1	13.6	15.04	19.6
PUNJAB						
48. Northern	889	925	42.8	42.6	8.81	10.3
49. Southern	538	569	37.2	43.5	7.14	
RAJASTHAN						
50. Western	162	232	14.0	18.2	12.68	14.2
51. North Eastern	449	556	15.5	17.5	10.11	13.8
52. Southern	278	430	32.1	25.9	8.39	16.6
53. South Eastern	294	294	21.1	21.1	12.71	12.7
TAMIL NADU						
54. Coastal Northern	405	493	23.7	22.0	8.31	2.9
55. Coastal	362	365	26.6	26.6	7.38	7.4
56. Southern	423	436	31.7	31.4	6.24	8.4
57. Inland	315	341	20.2	19.0	7.18	9.8

Appendix 1 (*Contd.*)

State	*Region*	*Enrolment/ Lakh Population*		*% Women*		*% Postgraduate Research*	
		College	*Total*	*College*	*Total*	*College*	*Total*
TRIPURA							
58.	Tripura	260	260	24.9	24.9	—	—
UTTAR PRADESH							
59.	Himalayan	350	524	27.2	25.5	12.19	24.9
60.	Western	342	383	25.2	24.5	19.03	20.0
61.	Central	319	399	27.5	25.7	11.41	15.5
62.	Eastern	285	387	9.6	11.2	5.20	14.5
63.	Southern	266	266	17.2	17.2	11.89	11.9
WEST BENGAL							
64.	Himalayan	330	379	27.5	26.7	—	8.9
65.	Eastern Plains	246	264	24.4	24.1	—	5.5
66.	Central Plains	749	830	34.7	34.7	.95	9.7
67.	Western Plains	286	286	23.9	23.9	—	—
UNION TERRITORIES							
68.	Andaman & Nicobar	139	139	35.5	35.5	6.87	6.9
69.	Arunachal Pradesh	061	061	11.7	11.7	—	—
70.	Chandigarh	3,983	5366	40.1	37.6	4.52	19.6
71.	Dadra & Nagar Haveli	—	—	—	—	—	—
72.	Delhi	776	1107	45.6	41.3	7.54	18.3
73.	Goa, Daman & Diu	618	618	35.5	35.5	4.52	4.5
74.	Lakshadweep	—	—	—	—	—	—
75.	Mizoram	590	590	17.7	17.7	—	—
76.	Pondicherry	652	652	14.9	14.9	9.79	9.8
SIKKIM							
77.	Sikkim	376	376	12.3	12.3	—	—

* *Not available*
— *Not Applicable*

Appendix 2

COLLEGE ENROLMENT: FACULTYWISE DISTRIBUTION—1980-1981

State Regions	*Arts* (%)	*Science* (%)	*Commerce* (%)	*Engg.* (%)	*Medicine* (%)
ANDHRA PRADESH					
1. Coastal	22.88	28.63	38.00	1.34	3.33
2. Inland Northern	19.51	34.94	29.41	4.76	8.04
3. South Western	30.39	22.97	38.55	0.00	6.60
4. Inland Southern	30.92	26.75	36.00	1.16	4.36
ASSAM					
5. Plains Eastern	52.48	16.94	15.52	4.83	4.69
6. Plains Western	57.93	20.13	6.43	3.47	3.18
7. Hills	100.00	—	—	—	—
BIHAR					
8. Southern	23.59	5.80	28.96	20.36	8.93
9. Northern	38.23	14.83	5.24	7.45	15.87
10. Central	30.94	5.47	3.65	9.09	29.31
GUJARAT					
11. Eastern	23.63	12.07	47.68	5.61	1.08
12. Plains Northern	36.81	12.98	22.70	4.04	6.16
13. Plains Southern	39.09	6.65	4..62	—	2.90
14. Dry Areas	26.23	3.45	32.34	—	1.03
15. Saurashtra	35.99	6.99	47.67	—	3.13
HARYANA					
16. Eastern	59.46	6.89	18.31	9.63	—
17. Western	64.01	8.42	13.83	1.92	—
HIMACHAL PRADESH					
18. Himachal Pradesh	70.89	21.89	2.51	—	4.68
JAMMU & KASHMIR					
19. Mountainous	36.77	33.28	19.09	—	6.71
20. Outer Hills	70.23	26.58	3.17	—	—
21. Jhelum Valley	32.80	27.25	5.63	12.48	3.90
KARNATAKA					
22. Coastal and Ghats	31.34	11.97	28.92	12.23	5.11
23. Inland Eastern	54.37	16.10	28.71	—	—
24. Inland Southern	43.71	8.23	13.22	17.88	4.24
25. Inland Northern	36.76	11.83	24.55	10.72	3.96
KERALA					
26. Northern	37.01	34.37	13.35	6.44	5.36
27. Southern	32.47	31.36	8.18	10.44	9.28

Appendix 2 (*Contd.*)

State Regions	*Arts* (%)	*Science* (%)	*Commerce* (%)	*Engg.* (%)	*Medicine* (%)
MADHYA PRADESH					
28. Chhattisgarh	44.13	21.05	20.76	3.88	1.71
29. Vindhya	46.65	27.05	12.17	—	1.99
30. Central	36.61	24.53	16.23	7.14	3.93
31. Malwa Plateau	32.55	20.61	28.27	3.27	2.95
32. South Central	34.18	24.88	23.55	6.28	2.81
33. South Western	33.21	25.25	33.33	—	.53
34. Northern	45.32	21.64	14.42	3.42	3.27
MAHARASHTRA					
35. Coastal	26.12	23.73	34.15	2.41	7.71
36. Inland Western	34.51	14.93	31.68	5.43	5.41
37. Inland Northern	31.33	17.80	39.72	—	1.12
38. Inland Central	31.90	9.81	33.42	2.89	5.47
39. Inland Eastern	26.58	19.91	31.01	4.97	10.18
40. Eastern	43.93	20.27	28.85	—	—
MANIPUR					
41. Plains	*	*	*	*	*
42. Hills	61.89	26.29	2.50	—	5.00
MEGHALAYA					
43. Meghalaya	70.44	17.66	10.23	—	—
NAGALAND					
44. Nagaland	68.50	13.44	—	—	—
ORISSA					
45. Coastal	58.77	17.60	12.32	—	5.20
46. Southern	58.87	24.39	16.73	—	—
47. Northern	48.26	16.84	11.90	6.07	3.84
PUNJAB					
48. Northern	68.74	16.47	6.30	1.18	3.03
49. Southern	63.84	17.66	6.52	2.93	4.80
RAJASTHAN					
50. Western	25.68	10.62	37.78	—	5.76
51. North Eastern	38.75	9.97	35.52	1.48	2.46
52. Southern	38.33	15.61	32.86	—	5.20
53. South Eastern	41.23	13.28	32.86	—	—
TAMIL NADU					
54. Coastal Northern	33.50	37.96	13.98	.20	8.10
55. Coastal	33.97	44.78	11.67	3.50	4.30
56. Southern	33.86	36.61	17.20	3.85	4.29
57. Inland	29.42	39.79	10.91	14.53	2.38
TRIPURA					
58. Tripura	61.27	10.68	20.43	5.60	

Appendix 2 (*Contd.*)

State Regions	*Arts* (%)	*Science* (%)	*Commerce* (%)	*Engg.* (%)	*Medicine* (%)
UTTAR PRADESH					
59. Himalayan	57.24	20.87	13.04	—	—
60. West	58.34	14.60	10.15	.18	1.05
61. Central	51.84	15.04	12.59	1.50	.33
62. Eastern	65.29	10.89	5.04	1.60	.56
63. Southern	64.19	12.91	4.17	—	2.15
WEST BENGAL					
64. Himalayan	41.65	15.66	23.00	8.55	—
65. Eastern Plains	45.57	23.80	24.17	.58	—
66. Central Plains	32.85	26.79	29.84	2.29	4.41
67. Western Plains	36.07	28.55	21.69	.55	3.36
UNION TERRITORIES					
68. Andaman & Nicobar	67.93	27.09	4.96	—	—
69. Arunachal Pradesh	86.44	13.55	—	—	—
70. Chandigarh	57.54	9.60	9.26	11.28	2.94
71. Dadra	—	—	—	—	—
72. Delhi	46.06	17.30	28.49	2.11	5.31
73. Goa, Daman & Diu	17.49	14.44	35.93	6.04	8.09
74. Lakshadweep	—	—	—	—	—
75. Mizoram	55.49	—	4.49	—	—
76. Pondicherry	36.71	33.95	6.67	—	14.75
SIKKIM					
77. Sikkim	22.25	14.57	12.02	—	—

Note : Description of regions is given in Appendix 1 of the manuscript which has not been reproduced here.

**Not available.*

Appendix 3

HIGHER EDUCATION : FACULTYWISE DISTRIBUTION OF ENROLMENT
1980-81

State Regions	*Arts* (%)	*Science* (%)	*Commerce* (%)	*Engg.* (%)	*Medicine* (%)
ANDHRA PRADESH					
1. Coastal	22.4	26.5	32.9	3.6	3.0
2. Inland Northern	18.8	30.0	22.2	10.1	5.5
3. South Western	30.4	23.0	38.6	0.0	6.6
4. Inland Southern	31.2	27.2	32.2	5.8	3.5
ASSAM					
5. Plains Eastern	50.6	16.0	14.1	4.4	4.3
6. Plains Western	45.1	8.9	3.0	49.7	5.3
7. Hills	0.0	0.0	0.0	0.0	0.0
BIHAR					
8. Southern	37.3	18.3	21.0	11.6	4.4
9. Northern	50.4	29.5	3.5	1.9	5.2
10. Central	50.9	25.7	8.3	2.2	3.3
GUJARAT					
11. Eastern	24.2	13.0	46.6	5.4	1.0
12. Plains Northern	36.1	13.6	21.4	3.7	5.5
13. Plains Southern	24.2	15.4	33.5	14.4	3.4
14. Dry Areas	26.2	3.5	32.3	14.0	1.0
15. Saurashtra	26.1	7.7	23.6	22.5	3.0
HARYANA					
16. Eastern	57.5	8.5	17.5	8.2	0.0
17. Western	57.8	10.1	12.4	1.7	0.0
HIMACHAL					
18. Himachal Pradesh	64.3	19.7	3.9	0.0	3.7
JAMMU & KASHMIR					
19. Mountainous	40.5	31.3	16.9	0.0	5.5
20. Outer Hills	70.2	26.6	3.2	0.0	0.0
21. Jhelum Valley	34.9	27.3	5.9	18.3	3.5
KARNATAKA					
22. Coastal and Ghats	30.0	11.9	29.1	11.6	4.8
23. Inland Eastern	54.4	16.1	28.7	0.0	0.0
24. Inland Southern	40.0	10.7	11.2	18.0	3.3
25. Inland Northern	38.1	13.4	23.0	9.6	3.8
KERALA					
26. Northern	37.5	34.1	13.1	6.2	5.2
27. Southern	32.2	31.0	8.2	10.1	9.0

Appendix 3 (*Contd.*)

State Regions	*Arts* (%)	*Science* (%)	*Commerce* (%)	*Engg.* (%)	*Medicine* (%)
MADHYA PRADESH					
28. Chhatisgarh	44.3	21.3	20.5	3.9	1.7
29. Vindhya	46.6	27.2	12.1	0.0	2.0
30. Central	36.9	25.7	16.9	6.4	3.2
31. Malwa Plateau	31.5	21.7	28.3	3.2	2.7
32. South Central	32.3	23.2	20.8	6.1	2.5
33. South Western	33.2	25.3	33.3	0.0	.5
34. Northern	45.0	21.8	14.3	3.4	3.2
MAHARASHTRA					
35. Coastal	27.7	23.7	32.0	2.9	7.1
36. Inland Western	34.2	15.9	29.7	5.2	5.0
37. Inland Northern	31.3	17.8	39.7	0.0	1.1
38. Inland Central	31.3	10.6	30.7	3.0	4.9
39. Inland Eastern	25.3	19.0	27.3	5.6	9.3
40. Eastern	43.9	20.3	28.8	0.0	0.0
MANIPUR					
41. Plains	68.3	31.7	0.0	0.0	0.0
42. Hills	61.9	26.3	2.5	0.0	5.0
MEGHALAYA					
43. Meghalaya	68.9	18.6	7.9	0.0	0.0
NAGALAND					
44. Nagaland	68.5	13.4	0.0	0.0	0.0
ORISSA					
45. Coastal	46.5	14.6	9.3	1.8	3.8
46. Southern	58.9	24.4	16.7	0.0	0.0
47. Northern	46.9	17.2	10.6	6.1	3.4
PUNJAB					
48. Northern	75.7	6.6	6.0	1.7	2.9
49. Southern	70.4	15.5	6.2	3.0	1.0
RAJASTHAN					
50. Western	30.8	10.5	32.5	4.2	4.1
51. North Eastern	37.5	11.9	32.7	2.9	2.1
52. Southern	30.1	18.5	26.6	2.4	3.4
53. South Eastern	41.2	13.3	32.9	0.0	0.0
TAMIL NADU					
54. Coastal Northern	30.8	35.0	13.3	7.7	6.7
55. Coastal	34.0	44.8	11.7	3.5	4.3
56. Soutern	34.0	37.1	16.9	3.8	4.2
57. Inland	27.2	36.8	10.0	14.1	2.2
TRIPURA					
58 Tripura	61.3	10.7	20.4	5.6	0.0

Appendix 3 (*Contd.*)

State Regions	*Arts* (%)	*Science* (%)	*Commerce* (%)	*Engg.* (%)	*Medicine* (%)
UTTAR PRADESH					
59. Himalayan	50.0	20.6	11.0	3.5	0.0
60. West	55.8	15.5	9.8	1.5	1.4
61. Central	46.4	14.7	11.3	1.2	3.0
62. Eastern	63.5	12.0	5.5	2.3	.7
63. Southern	63.5	12.0	5.5	2.3	.7
WEST BENGAL					
64. Himalayan	41.7	16.6	21.4	6.8	0.0
65. Eastern Plains	43.1	23.9	21.7	.5	0.0
66. Central Plains	33.7	25.0	26.9	3.7	4.1
67. Western Plains	36.1	28.5	21.7	.5	3.4
68. Andaman & Nicobar	68.0	27.0	5.0	0.0	0.0
69. Arunachal Pradesh	86.0	13.5	0.0	0.0	0.0
70. Chandigarh	56.0	13.4	7.0	9.0	2.5
71. Dadra & Nagar Haveli	0.0	0.0	0.0	0.0	0.0
72. Delhi	45.3	16.5	24.9	2.9	3.8
73. Goa, Daman & Diu	17.5	14.4	35.9	6.0	8.0
74. Lakshadweep	0.0	0.0	0.0	0.0	0.0
75. Mizoram	55.5	0.0	4.9	0.0	0.0
76. Pondicherry	36.7	33.9	6.7	0.0	14.7
77. Sikkim	22.3	14.6	12.0	0.0	0.0

Appendix 4

COLLEGE EDUCATION
FACULTYWISE DISTRIBUTION OF WOMEN ENROLMENT 1980-81

State Regions	*Arts* (%)	*Science* (%)	*Commerce* (%)	*Engg.* (%)	*Medicine* (%)
ANDHRA PRADESH					
1. Coastal	33.76	28.13	25.69	.03	3.95
2. Inland Northern	28.59	36.80	24.17	23.67	7.27
3. South Western	41.02	26.51	22.32	—	7.72
4. Inland Northern	33.97	34.72	24.06	.05	5.11
ASSAM					
5. Plains Eastern	83.54	9.99	1.26	3.04	.58
6. Plains Western	77.05	12.09	.51	.65	3.67
7. Hills	100.00	—	—	—	—
BIHAR					
8. Southern	20.15	1.95	1.55	2.81	9.13
9. Northern	61.18	5.43	.12	—	19.90
10. Central	81.35	4.06	—	—	13.51
GUJARAT					
11. Eastern	38.44	10.13	42.78	.30	3.24
12. Plains Northern	48.49	8.11	33.13	.45	3.42
13. Plains Southern	54.24	5.20	29.23	—	5.92
14. Dry Areas	33.59	2.39	14.76	1.15	1.09
15. Saurashtra	37.75	4.33	3.51	13.09	7.58
HARYANA					
16. Eastern	74.53	4.01	4.48	.09	3.41
17. Western	74.16	4.98	2.06	.02	—
HIMACHAL					
18. Himachal Pradesh	80.05	15.14	1.18	—	3.61
JAMMU & KASHMIR					
19. Mountainous	53.20	30.56	1.89	—	4.66
20. Outer Hills	85.01	14.47	.51	—	—
21. Jhelum Valley	20.20	7.40	.25	.51	.92
KARNATAKA					
22. Coastal and Ghats	45.90	16.29	24.54	.59	3.77
23. Inland Eastern	61.06	15.09	17.58	.60	—
24. Inland Southern	47.66	24.94	11.34	1.76	4.93
25. Inland Northern	51.98	13.52	16.10	1.64	6.79
KERALA					
26. Northern	43.23	3.06	8.32	6.29	5.58
27. Southern	42.31	36.91	6.48	3.28	2.99

Appendix 4 (*Contd.*)

State Regions	*Arts* (%)	*Science* (%)	*Commerce* (%)	*Engg.* (%)	*Medicine* (%)
MADHYA PRADESH					
28. Chhatisgarh	63.73	26.73	4.66	.40	1.56
29. Vindhya	60.54	29.03	1.83	.33	1.52
30. Central	67.90	16.03	.49	3.12	—
31. Malwa Plateau	63.26	5.88	3.75	.02	2.71
32. South Central	54.96	29.63	2.51	.63	2.02
33. South Western	55.20	33.91	6.42	—	.32
34. Northern	72.82	20.78	.51	.81	1.40
MAHARASHTRA					
35. Coastal	32.16	16.11	38.97	.21	4.99
36. Inland Western	38.31	15.29	33.86	.13	6.78
37. Inland Northern	44.26	15.03	34.02	—	.04
38. Inland Central	47.08	14.01	22.63	.56	7.71
39. Inland Eastern	57.01	10.34	15.36	1.46	8.63
40. Eastern	62.25	14.18	11.05	—	—
MANIPUR					
41. Plains	*	*	*	*	*
42. Hills	75.77	19.21	.55	—	3.06
MEGHALAYA					
43. Meghalaya	83.66	11.13	0.87	—	—
NAGALAND					
44. Nagaland	80.86	9.09	—	—	—
ORISSA					
45. Coastal	—	—	—	—	—
46. Southern	67.85	10.71	—	—	—
47. Northern	65.14	16.70	1.23	.75	4.57
PUNJAB					
48. Northern	86.77	5.14	.75	.04	1.83
49. Southern	43.17	3.98	.82	.11	1.75
RAJASTHAN					
50. Western	51.38	16.60	11.13	—	8.67
51. North Eastern	62.75	14.30	6.74	.12	5.77
52. Southern	48.61	25.92	13.67	—	5.52
53. South Eastern	64.69	14.07	11.45	—	—
TAMIL NADU					
54. Coastal Northern	64.27	2.97	13.36	.20	14.10
55. Coastal	42.89	47.87	3.77	—	4.09
56. Southern	44.05	38.64	7.70	0.97	3.38
57. Inland	62.65	19.29	14.30	3.87	4.67
TRIPURA					
58. Tripura	89.16	6.62	1.05		

Appendix 4 (*Contd.*)

State Regions	*Arts* (%)	*Science* (%)	*Commerce* (%)	*Engg.* (%)	*Medicine* (%)
UTTAR PRADESH					
59. Himalayan	81.15	13.43	1.27	—	—
60. West	79.22	9.22	1.97	—	1.13
61. Central	79.20	10.50	.29	.04	1.72
62. Eastern	82.62	5.81	3.34	.11	1.25
63. Southern	75.63	7.73	—	—	4.45
WEST BENGAL					
64. Himalayan	72.32	13.68	4.75	—	1.87
65. Eastern Plain	81.40	13.98	1.18	—	—
66. Central Plains	65.93	20.21	4.81	.13	2.42
67. Western Plains	66.00	19.20	1.88	—	1.30
UNION TERRITORIES					
68. Andaman & Nicobar	69.89	26.88	3.22	—	—
69. Arunachal Pradesh	79.48	20.51	—	—	—
70. Chandigarh	66.78	6.36	4.08	2.00	1.51
71. Dadra & Nagar Haveli		—	—	—	—
72. Delhi	64.93	14.99	13.45	.29	5.14
73. Goa, Daman & Diu	31.52	17.09	34.64	.13	6.94
74. Lakshadweep	—	—	—	—	—
75. Mizoram	93.00	—	1.64	—	—
76. Pondicherry	63.50	—	8.86	—	22.06
77. Sikkim	56.25	25.00	—	—	—

**Not available*

Appendix 5

HIGHER EDUCATION : FACULTYWISE DISTRIBUTION OF WOMEN ENROLMENT 1980-81

State Regions	*Arts* (%)	*Science* (%)	*Commerce* (%)	*Engg.* (%)	*Medicine* (%)
ANDHRA PRADESH					
1. Costal	35.2	28.0	24.1	.2	3.9
2. Inland Northern	31.1	37.3	20.9	1.1	5.8
3. South Western	41.0	26.5	22.3	—	7.7
4. Inland Southern	35.5	36.5	21.2	.4	4.4
ASSAM					
5. Plains Eastern	81.6	11.0	2.0	2.9	.6
6. Plains Western	76.6	12.0	.5	.6	3.7
7. Hills	—	—	—	—	—
BIHAR					
8. Southern	35.0	11.0	3.7	15.4	6.2
9. Northern	70.2	19.1	.1	—	6.0
10. Central	74.7	14.4	3.5	.1	1.9
GUJARAT					
11. Eastern	39.6	10.3	41.4	.3	3.1
12. Plains Northern	49.1	8.7	31.7	.4	3.2
13. Plains Southern	34.0	20.7	31.2	2.9	3.2
14. Dry Areas	23.6	2.4	14.8	21.2	1.1
15. Saurashtra	8.0	1.4	3.5	32.7	7.7
HARYANA					
16. Eastern	74.0	5.6	4.5	.1	3.1
17. Western	67.0	13.3	1.9	—	—
HIMACHAL PRADESH					
18. Himachal Pradesh	77.5	15.0	1.8	—	3.1
JAMMU & KASHMIR					
19. Mountainous	57.5	27.1	2.1	—	3.9
20. Outer Hills	85.0	14.5	.5	—	—
21. Jhelum Valley	22.8	8.1	.3	.5	.9
KARNATAKA					
22. Costal and Ghats	45.6	16.6	24.3	.6	3.7
23. Inland Eastern	61.1	15.1	17.6	.6	—
24. Inland Southern	47.0	26.0	10.7	1.7	4.5
25. Inland Northern	52.6	14.6	15.1	1.5	6.2
KERALA					
26. Northern	43.8	32.9	8.2	6.1	5.4
27. Southern	42.4	36.4	6.5	3.2	2.9

Appendix 5 (*Contd.*)

State Region	*Arts* (%)	*Science* (%)	*Commerce* (%)	*Engg.* (%)	*Medicine* (%)
MADHYA PRADESH					
28. Chhatisgarh	63.9	26.8	4.6	.4	1.5
29. Vindhya	60.5	29.1	1.8	.3	1.5
30. Central	63.1	21.9	.7	2.2	.1
31. Malwa Plateau	62.3	26.8	3.9	—	2.6
32. South Central	55.3	29.6	2.4	.6	1.8
33. South Western	55.2	33.9	6.4	—	.3
34. Northern	71.6	21.1	.5	.2	1.4
MAHARASHTRA					
35. Coastal	33.2	16.8	36.4	.4	5.0
36. Inland Western	38.7	16.7	32.3	.1	6.5
37. Inland Northern	44.3	15.0	34.0	—	—
38. Inland Central	46.7	16.4	20.9	.6	7.0
39. Inland Eastern	54.3	11.7	13.8	1.5	8.0
40. Eastern	62.3	14.2	11.1	—	—
MANIPUR					
41. Plains	71.6	28.4	—	—	—
42. Hills	75.8	19.2	.6	—	3.1
MEGHALAYA					
43. Meghalaya	82.7	12.3	.8	—	—
NAGALAND					
44. Nagaland	80.9	9.1	—	—	—
ORISSA					
45. Coastal	67.0	24.1	.6	—	—
46. Southern	67.9	10.7	—	—	—
47. Northern	65.1	19.0	1.1	.6	3.9
PUNJAB					
48. Northern	83.3	8.5	.8	—	1.7
49. Southern	44.0	4.9	.8	.1	1.7
RAJASTHAN					
50. Western	61.2	15.4	9.5	.3	4.8
51. North Eastern	63.1	16.2	6.8	.4	4.2
52. Southern	43.9	31.4	13.2	—	4.4
53. South Eastern	64.7	14.1	11.5	—	—
TAMIL NADU					
54. Coastal Northern	60.0	5.8	13.1	1.9	12.6
55. Coastal	42.9	47.9	3.8	—	5.1
56. Southern	44.3	38.7	7.6	1.0	3.3
57. Inland	51.6	19.0	14.0	3.8	4.6
TRIPURA					
58. Tripura	89.2	6.6	1.1	—	—

Appendix 5 (*Contd.*)

State Regions	*Arts* (%)	*Science* (%)	*Commerce* (%)	*Engg.* (%)	*Medicine* (%)
UTTAR PRADESH					
59. Himalayan	74.5	17.5	1.0	—	—
60. West	77.3	10.7	1.9	.2	1.6
61. Central	74.3	11.6	.4	—	4.0
62. Eastern	77.8	10.4	2.3	.2	1.0
63. Southern	75.6	7.7	—	—	4.5
WEST BENGAL					
64. Himalayan	71.6	14.5	4.3	—	1.5
65. Eastern Plain	79.5	15.3	1.0	—	—
66. Central Plains	65.7	19.2	4.3	.4	2.2
67. Western Plains	66.0	19.2	1.9	—	1.3
UNION TERRITORIES					
68. Andaman & Nicobar	69.9	26.9	3.2	—	—
69. Arunachal Pradesh	79.5	20.5	—	—	—
70. Chandigarh	63.5	13.3	3.3	1.6	1.5
71. Dadra & Nagar Haveli	—	—	—	—	—
72. Delhi	64.1	15.5	11.2	.5	4.2
73. Goa, Daman & Diu	31.5	17.1	34.6	.1	6.9
74. Lakshadweep	—	—	—	—	—
75. Mizoram	93.0	—	1.6	—	—
76. Pondicherry	63.5	—	8.9	—	22.1
77. Sikkim	56.3	25.0	—	—	—

Appendix 6

SHARE OF WOMEN IN TOTAL ENROLMENT OF DIFFERENT FACULTIES: COLLEGES 1980-81

State Regions	*Arts* (%)	*Science* (%)	*Commerce* (%)	*Engg.* (%)	*Medicine* (%)
ANDHRA PRADESH					
1. Coastal	39.81	26.51	18.24	.72	32.04
2. Inland Northern	47.69	34.28	26.75	1.61	29.40
3. South Western	32.37	27.68	13.89	—	28.06
4. Inland Southern	27.91	32.97	16.98	1.25	29.76
ASSAM					
5. Plains Eastern	48.39	17.93	2.47	19.16	3.77
6. Plains Western	28.57	12.90	1.72	4.01	24.77
7. Hills	18.09	00.00	—	—	—
BIHAR					
8. Southern	31.65	12.51	1.98	21.52	37.87
9. Northern	13.46	3.08	.19	—	10.54
10. Central	48.41	00.00	—	—	8.48
GUJARAT					
11. Eastern	56.00	28.90	30.88	1.86	22.62
12. Plains Northern	47.78	22.66	52.93	4.11	20.36
13. Plains Southern	39.72	22.39	19.18	—	38.40
14. Dry Areas	39.89	30.66	20.24	7.16	26.66
15. Saurashtra	36.38	55.33	21.21	4.56	33.27
HARYANA					
16. Eastern	48.65	22.27	9.36	.37	—
17. Western	29.07	14.85	3.74	.30	—
HIMACHAL PRADESH					
18. Himachal Pradesh	30.44	18.64	12.64	—	20.80
JAMMU & KASHMIR					
19. Mountainous	64.23	40.76	4.40	—	30.82
20. Outer Hills	49.62	22.31	6.66	—	—
21. Jhelum Valley	52.27	23.06	3.82	2.17	20.12
KARNATAKA					
22. Coastal and Ghats	48.76	45.28	28.26	1.63	24.56
23. Inland Eastern	44.22	36.93	24.11	—	—
24. Inland Southern	44.18	27.11	34.63	3.97	46.89
25. Inland Northern	26.28	21.24	12.19	2.85	31.87
KERALA					
26. Northern	43.62	35.93	23.29	16.49	38.91
27. Southern	69.12	62.44	42.06	16.68	17.12

Appendix 6 (*Contd.*)

State Regions	*Arts* (%)	*Science* (%)	*Commerce* (%)	*Engg.* (%)	*Medicine* (%)
MAHDYA PRADESH					
28. Chhatisgarh	36.52	32.11	5.67	2.66	23.11
29. Vindhya	18.76	15.51	2.17	—	11.08
30. Central	19.77	6.96	.32	4.66	—
31. Malwa Plateau	57.44	37.13	3.92	.19	27.20
32. South Central	45.52	33.70	3.01	2.86	20.32
33. South Western	40.83	32.99	4.73	—	14.92
34. Northern	34.88	20.85	.78	1.16	9.32
MAHARASHTRA					
35. Coastal	65.65	36.20	60.82	4.71	34.52
36. Inland Western	28.87	26.64	27.79	.63	32.56
37. Inland Northern	32.45	19.40	19.68	—	1.01
38. Inland Central	22.47	21.73	10.31	2.99	21.48
39. Inland Eastern	36.39	13.65	13.02	7.74	22.29
40. Eastern	33.86	16.71	9.15	—	—
MANIPUR					
41. Plains	*	*	*	*	*
42. Hills	42.33	25.25	7.69	—	21.15
MEGHALAYA					
43. Meghalaya	43.32	22.99	3.13	—	—
NAGALAND					
44. Nagaland	28.35	16.23	—	—	—
ORISSA					
45. Coastal	—	—	—	—	—
46. Southern	3.63	1.38	—	—	—
47. Northern	17.68	12.98	1.36	1.62	15.59
PUNJAB					
48. Northern	47.20	34.04	5.13	1.55	25.85
49. Southern	39.75	35.34	8.63	—	24.78
RAJASTHAN					
50. Western	28.03	21.89	4.12	—	21.07
51. North Eastern	25.03	22.17	2.93	1.27	36.32
52. Southern	40.64	53.22	13.34	—	34.02
53. South Eastern	33.04	22.31	7.34	—	—
TAMIL NADU					
54. Coastal Northern	45.42	1.85	22.64	24.00	41.23
55. Coastal	33.57	28.42	8.58	—	31.46
56. Southern	41.17	33.39	14.16	7.95	24.91
57. Inland	36.14	9.79	26.46	5.38	39.59
TRIPURA					
58. Tripura	36.24	15.43	1.28	—	—

Appendix 6 (*Contd.*)

State Regions	*Arts* (%)	*Science* (%)	*Commerce* (%)	*Engg.* (%)	*Medicine* (%)
UTTAR PRADESH					
59. Himalayan	38.58	17.51	2.66	—	—
60. West	34.19	15.89	4.89	—	27.15
61. Central	41.79	19.10	0.63	0.87	24.58
62. Eastern	12.10	5.10	6.33	0.69	21.32
63. Southern	20.27	10.30	—	—	35.57
WEST BENGAL					
64. Himalayan	47.68	23.99	5.67	—	—
65. Eastern Plain	43.54	14.32	1.19	—	—
66. Central Plains	69.57	26.15	5.59	1.98	19.04
67. Western Plains	43.75	16.08	2.08	—	9.25
UNION TERRITORIES					
68. Andaman & Nicobar	36.51	35.21	23.07	—	—
69. Arunachal Pradesh	10.80	17.77	—	—	—
70. Chandigarh	46.52	26.55	17.66	7.13	20.62
71. Dadra & Nagar Haveli	—	—	—	—	—
72. Delhi	64.23	39.49	21.51	6.43	44.11
73. Goa, Daman & Diu	64.06	42.06	34.27	0.79	30.49
74. Lakshadweep	—	—	—	—	—
75. Mizoram	29.61	—	5.88	—	—
76. Pondicherry	25.68	—	19.72	—	22.19
77. Sikkim	31.03	21.05	—	—	—

**Not available*

Appendix 7

HIGHER EDUCATION : SHARE OF WOMEN IN ENROLMENT IN DIFFERENT FACULTIES 1980-81

State Regions	*Arts* (%)	*Science* (%)	*Commerce* (%)	*Engg.* (%)	*Medicine* (%)
ANDHRA PRADESH					
1. Coastal	39.0	26.1	18.1	1.4	31.9
2. Inland Northern	45.3	34.0	25.8	2.9	28.7
3. South Western	32.4	27.7	13.9	0.0	28.1
4. Inland Southern	27.0	31.8	16.6	1.6	29.8
ASSAM					
5. Plains Eastern	47.0	18.8	2.5	19.2	3.8
6. Plains Western	25.1	11.1	1.4	0.0	5.7
7. Hills	18.1	0.0	0.0	0.0	0.0
BIHAR					
8. Southern	24.9	15.4	4.7	36.1	37.9
9. Northern	13.9	6.5	.2	0.0	11.5
10. Central	22.2	8.4	6.4	.7	8.5
GUJARAT					
11. Eastern	55.8	27.3	30.3	1.5	2.6
12. Plains Northern	47.4	22.1	51.6	4.1	20.4
13. Plains Southern	44.2	44.7	29.3	6.4	29.5
14. Dry Areas	39.9	30.7	20.2	67.2	46.7
15. Saurashtra	30.3	18.6	14.7	44.6	51.0
HARYANA					
16. Eastern	45.7	23.4	9.1	.4	0.0
17. Western	28.9	32.6	3.7	.3	0.0
HIMACHAL PRADESH					
18. Himachal Pradesh	30.3	19.2	11.7	0.0	20.8
JAMMU & KASHMIR					
19. Mountainous	61.7	37.6	5.4	0.0	30.8
20. Outer Hills	49.6	22.3	6.7	0.0	0.0
21. Jhelum Valley	52.8	23.9	3.4	2.1	20.1
KARNATAKA					
22. Coastal and Ghats	48.6	44.4	26.8	1.6	24.6
23. Inland Eastern	44.2	36.9	24.1	0.0	0.0
24. Inland Southern	40.5	85.3	33.0	3.2	46.9
25. Inland Northern	25.6	20.2	12.1	2.9	30.5
KERALA					
26. Northern	43.7	36.0	23.3	36.5	38.9
27. Southern	70.7	62.9	42.4	16.8	17.1

Appendix 7 (*Contd.*)

State Regions	*Arts* (%)	*Science* (%)	*Commerce* (%)	*Engg.* (%)	*Medicine* (%)
MADHYA PRADESH					
28. Chhatisgarh	36.4	31.6	5.7	2.6	23.1
29. Vindhya	18.7	15.4	2.1	0.0	11.1
30. Central	20.9	10.5	.5	4.3	.4
31. Malwa Plateau	54.9	34.2	3.8	.2	26.2
32. South Central	45.9	34.1	3.1	2.8	20.2
33. South Western	40.8	33.0	4.7	0.0	14.9
34. Northern	34.9	21.2	.8	1.2	9.3
MAHARASHTRA					
35. Coastal	64.5	38.1	61.0	7.3	37.7
36. Inland Western	29.0	26.8	27.8	.6	32.6
37. Inland Norther	32.5	19.4	19.7	0.0	1.0
38. Inland Central	22.5	23.4	10.2	2.9	21.5
39. Inland Eastern	55.1	15.8	13.0	6.6	21.9
40. Eastern	33.9	16.7	9.1	0.0	0.0
MANIPUR					
41. Plains	21.0	17.9	0.0	0.0	0.0
42. Hills	42.3	25.3	7.7	0.0	21.2
MEGHALAYA					
43. Meghalaya	41.9	23.2	3.5	0.0	0.0
NAGALAND					
44. Nagaland	28.4	16.2	0.0	0.0	0.0
ORISSA					
45. Coastal	3.0	3.4	.1	0.0	0.0
46. Southern	3.6	1.4	0.0	0.0	0.0
47. Northern	18.8	15.0	1.4	1.4	15.6
PUNJAB					
48. Northern	46.9	55.5	5.3	1.9	25.9
49. Southern	40.3	36.0	8.7	0.0	24.8
RAJASTHAN					
50. Western	36.2	26.8	5.3	1.1	21.1
51. North Eastern	29.4	23.8	3.6	2.3	34.1
52. Southern	37.7	44.0	12.8	.5	34.0
53. South Eastern	33.0	22.3	7.3	0.0	0.0
TAMIL NADU					
54. Coastal Northern	42.8	3.6	21.6	5.6	41.2
55. Coastal	33.6	28.4	8.6	0.0	31.5
56. Southern	40.7	32.8	14.2	8.0	24.9
57. Inland	36.1	9.9	26.5	5.1	39.6
TRIPURA					
58. Tripura	36.2	15.4	1.3	0.0	0.0

Appendix 7 (*Contd.*)

State Regions	*Arts* (%)	*Science* (%)	*Commerce* (%)	*Engg.* (%)	*Medicine* (%)
UTTAR PRADESH					
59. Himalayan	38.1	21.7	2.2	.7	0.0
60. West	34.0	17.0	4.7	3.9	28.1
61. Central	41.2	20.3	.8	.9	33.9
62. Eastern	13.8	9.7	4.7	1.0	15.0
63. Southern	20.3	10.3	0.0	0.0	35.6
WEST BENGAL					
64. Himalayan	45.9	23.3	5.3	0.0	0.0
65. Eastern Plains	44.5	15.4	1.2	0.0	0.0
66. Central Plains	68.2	26.9	5.6	3.5	18.4
67. Western Plains	43.7	16.1	2.0	0.0	9.2
UNION TERRITORIES					
68. Andaman & Nicobar	36.5	35.2	23.1	0.0	0.0
69. Arunachal Pradesh	10.8	17.8	0.0	0.0	0.0
70. Chandigarh	42.9	37.2	17.5	6.7	21.8
71. Dadra & Nagar Haveli	0.0	0.0	0.0	0.0	0.0
72. Delhi	58.5	38.6	18.7	6.8	45.8
73. Goa, Daman & Diu	64.1	42.1	34.3	.8	30.5
74. Lakshadweep	0.0	0.0	0.0	0.0	0.0
75. Mizoram	29.6	0.0	5.9	0.0	0.0
76. Pondicherry	25.7	0.0	19.7	0.0	22.2
77. Sikkim	31.0	21.2	0.0	0.0	0.0

**Not Avatlable*

Note : The figures Nos. 1 to 10 of this article appear at the end of this journal.

Universities in Malaysia

V. SELVARATNAM

Universities in most Third World countries were implanted when they were under the formal and direct jurisdiction of a colonial power. They were modelled on the cultural base and traditions of either European or American universities. In some instances, they are bicultural hybrids i.e. based on both the American and European models. Third World universities including Malaysian universities like their European and American counterparts are also part of an international knowledge system and are charged to perform specific objectives. These objectives can be broadly classified: firstly, universities act as reservoir and transmitor of knowledge; secondly, universities are charged to the enhancement of knowledge continuously through research and teaching in various disciplines; thirdly, they have to prepare students to meet society's requisite high-level manpower needs; and lastly, universities are to perform useful service to their respective societies through their research, teaching and other related activities.

In spite of their common origins, objectives and goals, universities located in Third World countries because of their relative economic and therefore technological handicap find themselves at a disadvantage in achieving one of their key objectives i.e. equality in the generation, enhancement and dessimination of frontiers of knowledge within the international framework. Therefore, they are said to be on the periphery of the generation, proclamation and dissemination of the frontiers of knowledge (Altbach, 1981 : 601). Altbach (Ibid : 602) says that Third World universities, "copy developments from abroad, produce little that is original, and are generally not at the frontiers of knowledge." On the other hand, most of the established and well-known universities located in the industrialized countries are said to be central institutions and thus function as pinnacles of the academic

system. They are research-oriented, prestigious and part of parcel of an international system. This inequalities in international knowledge system is very deep rooted and has very strong institutional support. Therefore, the contention among concerned scholars of Third World problems is that it is difficult or even near impossible to disloge this deep rooted power centres of knowledge which are located in the industrialized countries of the West.

The main thrust of this article is to examine whether the centre—peripheral model is a useful analytical framework to study the roles, functions and organizations of Malaysian universities. In order to do this, the paper initially outlines the origin, growth and structure of universities in Malaysia. It then goes on to examine the way in which Malaysian universities are organized, structured and governed. It then examines the changes Malaysian universities have gone through over the last decade to keep in line with national realities. To what extent these changes are a departure from the British model towards a national model which is distinctively Malaysian.

Malaysian Universities

(*i*) *Origins and Growth:* The university system that took root in the multi-ethnic society of Malaysia was an implantation of a British model during British colonial rule. Therefore, not surprisingly, the British university system was to a large extent replicated throughout the higher education milieu of the country and formed the basis of the higher education system of Malaysia from the beginning. The historical origins and growth of universities in Malaysia can be seen in four specific stages. First, the implantation and development of an institutions of higher education in Malaysia and Singapore before Malaysia's independence in 1957; second, the establishment of the University of Malaya in Kuala Lumpur in 1961; third, the establishment and growth of three new national universities and an International Islamic University after 1969; and finally, the upgrading of the Agricultural and Technical Colleges in 1971 and 1972, respectively, to full university status.

Basically for functional and political reasons, the British colonial state established the first institution of higher education into the country as late as in 1905 with the establishment in Singapore of a British modelled professional medical school which was closely linked to the British system of education and practice in medicine. The main function of the medical school was to train locals to serve the health and medical needs of the colonial state. In 1921 it was substantially expanded and restructured and was called the King Edward VII College of Medicine. Dentistry was added in 1929. The college which was government financed and controlled, maintained high standards both in its teaching and output of graduates. The school from its inception pursued high academic and professional standards and therefore it was recognized by the British General Medical Council from 1916. (Carr-Saunders,).

In 1929 the colonial state, in order to commemorate the centenary of

the founding of Singapore by Sir Stamford Raffles, established a second tertiary institution called the Raffles College. Raffles from the beginning had strong visions that an:

> "...institution in the nature of a native college, which shall embrace not only the object of educating the higher classes of the native population, but at the same time affording instruction to the officers of the company in the native languages and of facilitating our more general researchers into the history, condition and resources of these countries" (Raffles, 1830 : 79).

The College, though financed by the colonial state was governed by an independent council. However, on the council there was adequate representatives from the colonial state in order to stear clear of policy issues that were diamatrically opposed to the interest of the colonial state. It had a Senate which controlled academic matters. The College provided to a selected group of individuals both Malaysians and Singaporeans a British modelled liberal education using English as the medium of instruction. Courses in English, history, mathematics, physics, chemistry, education, economics and geography were taught. This was further reinforced by the usage of reading and reference material which were heavily European bias in content and character. Even the courses that were taught on the history and politics of Malaysia and her neighbours were taught from a Eurocentric view of the events. In other words, a Eurocentric education largely unrelated to the immediate economic, political and social-cultural environment of the students. The diplomas that the college awarded to successful candidates after a three year study, though of a very high standard, were not recognized in Britain and other Commonwealth countries. Most of the graduates of the college were absorbed as teachers into the growing and predominantly urban-based, English medium schools. A small number of Malays, particularly from the upper crust of the Malay society who came in and graduated from the college with a diploma, were mainly recruited into the Malay Administrative Service (MAS), the lower echelon of the prestigious and then exclusively European manned Malaysian Civil Services (MCS). This administrative service later became the recruiting ground for the first two generation of the political leadership of the country.

Both these tertiary institutions were developed independently of one another, perhaps deliberately. However, as a result of the recommendation of the Carr-Saunders Commission in 1948, these two institutions were amalgamated on 8 October 1949 to form the nucleus of the autonomous English medium University of Malaya in Singapore with degree granting status. This recommendation, which was hailed as liberal and sympathetic with the aspirations of the people of the country (Lim Tay Boh, 194 : iii) was contrary to the decisions taken by the pre-war McLean Commission and the immediate post-war Asquith Commission. Both of them had recommended the establishment of a University College linked with the metro-

politan based University of London for an adequate transitional period before a full-fledged university was established. An experiment in terms of these commissions that had been used with considerable success in former colonies like Sri Lanka, Nigeria and the West Indies. Initially, the University of Malaya had three faculties, namely Arts, Science and Medicine, including Dentistry and Pharmacy. Over the years Education (1950), Engineering (1955), Law (1957), and Agriculture (1961), were added. The domin and feature of these faculties was basically departments oriented towards disciplines.

On the eve of Malayan independence, the then government of the Federation of Malaya and Singapore appointed a Commission under the chairmanship of Sir Robert Aitken, the Vice-Chancellor of the University of Birmingham to study and make recommendations as to whether or not it was feasible to establish a new university in the Malayan capital, Kuala Lumpur. The main thrust of this proposed university was two-fold. First, it was intended to make provision for an increasing demand for trained manpower both as a result of the implementation of a "Malayanization" policy, i.e. the replacements of expatriates with Malaysians, and the rapid development and expansion of public and private sectors with independence. Second, the proposed university had to meet the increasing demand for University education by the rapidly growing school leaving and aptly qualified student population. In the light of the Commission's Report (Singapore, 1957) and the recommendation of the Joint Constitutional Committee (Federation of Malaya, 1958) appointed by the two governments, legislation was passed in November 1958 providing for the continuance of the University of Malaya as a single university and for the establishment of two autonomous divisions of equal status, in each territory. After the legislation came into operation on 15 January, 1959, the University of Malaya in Singapore and Kuala Lumpur each had a principal, a Divisional Council and a Divisional Senate, while the University of Malaya as a whole was administered by the Vice-Chancellor and a Central Council as well as a degree-granting and coordinating body. It also combined to maintain a common court and guild of graduates. However, each of the divisions had a large measure of administrative and academic autonomy in order to pursue independent policies to meet the manpower demands of the respective territories.

The independent government of the Federation of Malaya in 1960 saw the necessity of an exclusively national university within its own territorial boundary, decided that the autonomous Kuala Lumpur division of the university should become the sole University of Malaya. Similarly, the government of the Republic of Singapore decided that the Singapore division of the University, should become the University of Singapore. It is now known as the National University of Singapore (NUS) after its amalgamation with the Nanyang University in 1980. The necessary legislation was passed by both countries in 1961 to formalize the establishment of two separate universities with effect from 1 January, 1962.

Since its inception in 1959 as a division of the University of Malaya in Kuala Lumpur, the development of the University of Malaya has been rapid both in terms of student and staff numbers and infrastructure facilities. In terms of student numbers, the numbers rose from 323 in 1959 to 1,341 in 1962. It continued to rise to 2,835 in 1965, 4,560 in 1967, 8,519 in 1973 and in 1985 it stood at 9,890 which included postgraduate enrolment as well. Since 1973 the University has been not only consolidating its past expansion and growth but has also been moving more and more towards postgraduate studies and advanced research. This has now been formalized and further consolidated with the establishment of an Institute of Advanced Studies in July 1979. The basic aim of this Institute is twofold. First, to initiate and carry out policy relevant multi-disciplinary research that will be relevant for socio-economic development of the country. Second, to eventually produce within the country the major requirements of the highly trained manpower that is necessary for research, teaching and in industry which is thus far being met more or less exclusively by Malaysians trained in foreign countries, predominantly the West.

While the University of Malaya was putting down deeper roots and expanding to meet the unprecedented increase in demand for student places in the various disciplines, the then government of the Federation of Malaya decided that a Higher Education Planning Committee should be established under the chairmanship of the Minister of Education "to review the arrangements in the Federation of Malaya for Higher Education and to make recommendations for the development and improvement of such education in the light of the foreseeable needs and financial resources of the country" (Malaysia, 1967 : 163). The committee in its report that was released to the public in 1967 recommended that on a long term basis, 20 per cent of the relevant age group should be provided with facilities for higher education. Taking this into focus, the committee, recommended (*Ibid* : 208) that:

(1) the Technical College should convert into a College of Technology and enjoy a status comparable to that of a university and courses leading to professional qualifications in architecture, surveying, town and country planning as well as engineering should be made available;
(2) the faculty of agriculture should be expanded rapidly;
(3) a university college should be established in Penang and be ready to admit students in 1970;
(4) in addition to courses in the medium of English, more arts and science courses, including courses in technology, in the medium of the national language should be offered at both university and college levels as soon as possible;
(5) facilities should also be made available for training of high level manpower in the following fields: 1) accountancy 2) library and archival science 3) veterinary science 4) forestry 5) fisheries and 6) journalism.

These recommendations gave the country an initial impetus for a sudden expansion of higher education, with a bias towards scientific and technical disciplines. The first new university to be established was the University of Penang, now known as Universiti Sains Malaysia (Science University of Malaysia) at Penang in 1969. It expanded rapidly and in 1971, it took the initiative to offer the first off-campus academic programmes in Malaysia. With an initial student population of 271 in 1970, it rose in 1973 to 1,543 and in 1985 the student number stood around 8,862 which includes the off-campus enrolment. The university in its academic structure departed from the traditional British model of rigid discipline oriented departmental structures and opted for the academically and administratively broadly-biased "school" system. Within each of the schools, it was possible for students to pursue their interest in specific disciplines but at the same time they were required to become acquainted with other but related fields of study. Simultaneously, in the curricula there was a conscious attempt to orientate its content towards the vital manpower needs of the nation in the manufacturing industry, agriculture, social and welfare services, health and education (Ahmad Ibrahim, 1972 : 101).

In the following year, the National University of Malaysia (known as Universiti Kebangsaan Malaysia) was established incorporating the Muslim college, one of the earliest institution of higher education in the country. Its student numbers too rose rapidly, from 169 in 1970 to 1,481 in 1973 and 10,220 in 1985. In 1984, yet another new University called the University Utara Malaysia (University of North Malaysia) was established in Kedah the home state of the country's Prime Minister with its focus on management sciences and information technology. Its student enrolment stood at 604 in 1985. In addition, an International Islamic University was established and commenced its first session in July 1983 using Arabic and English as the medium of instruction. The purpose of this university is to strengthen cooperation and friendship between Islamic intellectuals, provide facilities for Islamic studies and train skilled manpower for development within the basis of Islamic principles. The philosophical basis of this new university fundamentally contradicts and departs from the dominant western belief system that assumes that the existing body of academic knowledge is universal and cross-national in character. The stress in this university is on the philosophical assumptions and beliefs of Islam on knowledge. This is basically an attempt to break away from the dominance of universities in the centre being the generations, interpretors and purveyors of knowledge.

A School of Agriculture was opened in 1931 for training agricultural assistants to work in the agricultural department. When the school re-opened after World War II, the colonial government decided to raise its status to a College of Agriculture, offering a three-year diploma course providing training in the science and practice of tropical agriculture with special reference to local crops and conditions (Wong Hoy Kee and Te Tiang Hong, 1971 : 161). Similarly, a Technical College was started in 1925 with the purpose of training middle-level technical personnel to man the colonial

state's Public Work Department, the Railways, the Survey Department and other related public utility service departments. In the years 1971 and 1972, respectively, both these institutions were raised to university status. In 1985 their student numbers both at the diploma and degree level stood at 8,412 for the Universiti Pertanian Malaysia (Agricultural University of Malaysia) and 7,472 for the Universiti Teknologi Malaysia (University Technology Malaysia). Malaysia which had only one university in 1969, suddenly saw a rapid expansion in the provision of higher education, by the addition of four new universities within a span of four years. In addition, five middle level tertiary institutions were established. The MARA Institute of Technology opened in 1967 to train *bumiputras* (Malays and other indigenous groups) in middle level management and technological positions. The Ungku Omar Polytechnic was established in 1969 to train Malaysians for middle level technical manpower of which the country was badly in need. The Tunku Abdul Rahman College was established in 1969 to meet the higher education demands of predominantly students of Chinese ethnic origin who were unable to get access to the country's limited number of higher education institutions. In addition, two polytechnics at Kuantan and Batu Pahat were established, to train technicians at certificate level.

(*ii*) *Administration and Academic Structure*: In the absence of any semblance of an indigenous university system in the country, the university system that was implanted and nurtured in Malaysia was British. This was in line with the recommendation of the McLean Commission of 1939, which emphasised that as in Great Britain, in Malaysia too, there should develop a strong academic tradition. In this tradition, university education and academic life should not be controlled by the state. This tradition, it was believed, was the way in which freedom of development was to be best secured and the necessary freedom of thought guaranteed (Colonial Office, 1939 : 93). Thus according to Ashby (1966 : 224):

> "Underlying British enterprise in providing higher education for her people overseas was one massive assumption: that the pattern of university appropriate for Manchester, Exeter and Hall was *ipso facto* appropriate for Ibadan, Kampala and Singapore. If we were going to export universities to our overseas dependencies they would of course be British universities, just as the cars we export there are British cars. As the cars, so with universities: we willingly made minor modifications to suit the climate, but we proposed no radical change in design: and we did not regard it as our business to enquire whether French or American models might be more suitable. This assumption—it is almost an axiom—ran through a great deal of the official thinking which proceeded the Asquith report; it was accepted without question by the Asquith Commission; and, until recently, it lay hidden in the foundations of all universities in the new Commonwealth countries."

In other words, this system was a transplant of the British system. Therefore, the system was foreign to the non-European socio-cultural traditions of the people of the country except for a small group of English educated and western trained elites.

Not surprisingly, therefore, the University of Malaya and the other universities that were established well after the country had achieved independence were also modelled and structured along the lines of British universities. In all this, the inter-University Council for Higher Education in the Colonies (Colonial Office, 1954 : 30-34) set up in 1946 in London with representatives from British and colonial university institutions played an important and vital role in moulding these universities into the British pattern. Like in the British universities, the academic activities were organised and made to revolve around core disciplines which formed the body of knowledge that was used in teaching and research. Malaysian universities were formally organized like their British counterparts to perform the functions of research and teaching as well as to reflect on the body of knowledge and academic opinions that is generated. However, their main function was to formally prepare and provide society with the necessary high-level manpower of a reasonably high calibre. In other words, universities have dual aims: one to produce liberally educated 'all-rounders' who could serve the growing public services, private sectors and the teaching profession and second, to produce a core of professionals, i.e. men with a rigorous and specialized training in medicine, dentistry, engineering, accountancy, etc. to meet the growing needs of the country.

In order formally to organize and implement these main functions, the University of Malaya as recommended by the Carr-Saunders Commission, was structured and organized as an autonomous body on a British provincial university model (Silock, 1964 : 9). The British model divided its administrative structure into two parts: academic and non-academic matters. As in Britain, the authorities of the universities were the court, the council, the senate, the faculties, the institutions, the boards of studies, the boards of selection, the board of student welfare, the guild of graduates and such other bodies as may be prescribed by statutes as authorities of the universities. Following the British pattern, the Vice-Chancellor was appointed by the university council as the principal academic and executive officer of the university. The vice-Chancellor is supported, as in British universities, by senior administrators, including a registrar who takes care of academic and council is the governing body of the university and it is the principal authority in that it determines the broad policies of the whole university, except in relation to academic matters which are solely under the jurisdiction of the Senate, which is made up solely of academics.

The newer universities that were established between 1969 and 1974 in Malaysia were broadly based on British models but with departures in departmental structures. Since there was no encouragement for the development and growth of an indigenously generated fabric of academic knowledge which was related to the Malaysian socio-cultural and historical environment

and its future development, academic knowledge in the form of core disciplines that formed the basis of the university curricula was also Western in origin, predominantly British and American. They came with a value system that was crystallized in a British and American academic milieu where free enquiry was enshrined. Neither was there in Malaysia a sufficiently large local community of academic scholars. Therefore, initially the University of Malaya and also the other new universities to a lesser extent were manned by a large number of expatriate academics who were heavily individualistic and discipline oriented. Discipline rather than the institution tended to become the dominant force in their working lives. They, therefore, lacked a commitment to the academic organisation as a whole as well to national issues. Their favourite doctrine was freedom of research, teaching and learning in their respective disciplines. Initially, a large proportion of them came from British and Commonwealth universities, but subsequently under various aid programmes, expatriate academics from America too, came to play an important role in the transmission and perpetuation of a predominantly American oriented fabric of knowledge and research. They had an influence on teaching and assessment of students. Therefore, the exclusively British character and structure began to replaced by new features. However, in the last two decades through various training programmes, the expatriate academic community has been rapidly and effectively replaced by a Malaysian academic community, but one which is basically trained and oriented in an academic culture whose belief and value system is basically western. Therefore, not surprisingly, many of them still continue to perpetuate the same beliefs about theory, methodology, techniques and problems including using a curricula in their teaching which is western biased.

In spite of the fact that the University of Malaya and the other newer universities are financed from public funds, they were given considerable autonomy in academic matters and internal administration. The main academic and administrative power was located within the university itself and as in the British model, the diffusion of authority was from the top. Each university was allowed to draw up its course content, award its own degrees and hire its own faculty. Up till today the University of Malaya's medical degrees are patterned and structured in such a way in order for the degree to continue to be recognized by the British Medical Council (GMC). This autonomy was maintained and ensured by legislation.

In other words, the Western model of higher education, in particular the British model, permeated and dominated the whole higher education system of Malaysia: its knowledge structure and organisations, its curricula and standards and in its social functions. They were further embodied and guaranteed again by suitable Acts of Parliament. This system could not foster a local academic tradition and belief and knowledge system that could came to terms with the fundamental issues a multi-ethnic and fast developing country like Malaysia which was facing rapid population growth and marked economic inequalities along ethnic lines.

(*iii*) *Continuity and Conflict:* The architects of this university system both the colonial administrators and the western educated elites had wanted it to be a replica of the British conventional university system at its best with its autonomous status intact. They took pride in maintaining and perpetuating the autonomy of this system in spite of the fact that the universities were government financed.

The conviction that Malaysian universities should remain autonomous was reinforced even as late as 1967 when the Higher Education Planning Committee in its report (1967 : 265) stressed:

> "Universities, to be worthy of that name, should be allowed to complete antonomy in internal administration and full freedom in all academic matters."

However, in reality the system that ultimately did take root and established itself over the years was not able to reflect this utopian vision in toto because of a combination of political and economic factors, like inequalities in the distribution of wealth, income and political power, respective disciplines along ethnic lines. Neither did the academic community because of its preoccupation with the academic values, university autonomy, standards and norms from international academic community, come to terms with the fundamental socio-political issues a multi-ethnic and developing country like Malaysia faced and build an expertise in helping the country to overcome some of these urgent issues. As indicated earlier, the western training which most of the Malaysian academics acquired, socialized them towards a western educational perspective, intellectual direction, scientific and methodological paradigms, work habits and professional expectations of their respective "host" countries. In other words, the Malaysian academic community became part of an international scientific community. It continued to share distinctive intellectual tasks and related codes of conduct with their fellow physicists, economists and historians in spite of the fact they enter different cultural houses. As Clark (1983 : 76) pointed out "A paradigm is what the members of a scientific community share, and conversely, a scientific community consists of men who share a paradigm." In the core disciplines there is a "common vocabulary" and symbols. Judgements on quality of performance in disciplines are made across the borders of the institutions and across national systems (*Ibid:* 246). The Malaysian universities too identified themselves as part of an international knowledge system and was dependent on this system.

In other words, the Malaysian universities are basically on the periphery of the international knowledge system. This is because the western educational model and its "intellectual centres" still continue to provide the impetus as well as functions as the pinnacles for Malaysian academic system (Altbach, 1982 : 46). Also the Malaysian universities do not have the 'critical mass' of research personnel facilities and the drive to initiate and

produce the top-quality research to be a contributor to the international knowledge system. For example:

> "the teaching of the social sciences suffers from an "unfavourable balance of intellectual payments". It imports many more knowledge products from the west then it exports. Malaysia is beholden to the western industrialized nations for social scientific books and journals in anthropology, communications, political science, psychology, sociology, etc. and also for knowledge for applied research findings and often the results of research about the country and society itself. Further, knowledge and information are generally channelled through the western nations and therefore filtered through their publishing houses, journals and academic institutions before reaching academics in the country. In short, in the teaching of social sciences, Malaysia finds itself in a classic position of dependency vis-a-vis industrialized nations. (Abdul Halim Otham and Abu Hassan Othman, 1980: 180-181).

The universities produce very little that is original and they are thus not on the forefront of the knowledge production and disseminating industry as western universities are. This is largely because the system utilizes a curriculum in its teaching and research the paradigms and methodology they use in the metropole, as its prime reference point. Therefore, there is in the Malaysian university's pattern of knowledge acquisition and production an inherent distortion. For example, teaching and research in economics in Malaysian universities, particularly the neo-classical brand, has come under continuous and severe criticism, largely because of the limited success this brand of economics has achieved in the re-distribution of income in the country in spite of the impressive economic growth rates, Malaysia has achieved since its independence. This phenomenon has now become rather deep rooted. Perhaps with the development of an endogenous and creative intellectual community the country might be able to free itself from this form of intellectual dependency which is not able to generate the relevant knowledge to solve some of the crucial problems the country faces.

(*iv*) *Changes: Towards a National-cum-Western/Peripheral model?* As indicated earlier Malaysian universities were in origin a transplant of British conventional university models. Subsequently what was considered to be useful and relevant features of the American model like the credit and semester system were grafted onto them. However, this conventional model of higher education was not able to come to terms with basic national issues, like income imbalances along ethnic lines, national unity, national aspirations, and to harness change for the well-being of the society as a whole. Instead, the model was divorced and isolated from the main trend of the country's economic, cultural and social development process. In other words, concerns and dissatisfaction were expressed that the existing con-

ventional university model was not able to play its part to help the national policy makers to solve the 'revolution of rising expectations' that had emerged in the country with independence. This model was to be changed considerably with the major post-colonial delimma that faced the newly independent Malaysian multi-ethinic nation. Namely, the creation of a multi-ethnic Malaysian nation and at the same time recognise and through deliberate government intervention act for the legitimate aspirations and demands of the politically dominant but economically backward *bumiputra* population while not depriving and eliminating the non-Malay population.

The event that acted as a catalyst for the politically dominant *bumiputra* community to resolve this delimma and bring about the desired political changes was the outbreak of communal violence of an unprecedented nature on 13 May, 1969. The aftermath of this event saw the suspension of parliamentary democracy, and the country put under control of a National Operations Council (NOC) (Selvaratnam, 1974: 1-24). The May 13 inter-ethnic violence can be said to be a watershed in the history of the country, for the country witnessed subsequently radical departures in the country's political, economic, cultural and education policies. The NOC appointed a committee to study campus life of students of the University of Malaya. In its report, the committee emphasized that:

> "It is a fact that the present Constitution of the University of Malaya was largely a reproduction of Constitution of the University of Malaya 1949, recommended by the Carr-Saunders Commission, which in turn was more or less based on the English University model. Though it had the status of a national university, the constitution itself was very much a legacy of the colonial era. The provisions in the constitution did not reflect the national character of the university (NOC, 1971 : 10).

The committee emphasised that nothing was stated in the Constitution or in any of the university statutes and acts about fostering national culture, national values, national consciousness and national unity (Ibid). It further highlighted the point that in a sense the university did not have a clearly defined policy as to how it should function as a national University of Malaya (Ibid). Immediate steps were therefore taken to accelerate development of higher education in order to increase access through the establishment of *Universiti Kebangsaan Malaysia* (National University of Malaysia). This university was also to meet the country's growing national aspiration and respond to national needs. Thus, the new university was to contribute to positive societal development.

A *Universities and University Colleges Act of 1971* was passed. This new act was conceived within a broader national framework of constitutional and policy reform which was considered to be more appropriate for a "fragile" multi-ethnic society like Malaysia, in which disparate aspirations of the population, particularly of the majority *bumiputra* community had to be met. In the forefront of this new policy was the New Economic Policy

(NEP) which was spelled out in the government's comprehensive and ambitious second Malaysia Five-Year Plan. The Plan shifted the country's previous emphasis from mere growth to an egalitarian growth—distribution policy in order to create a united, socially just, economically equitable and progressive Malaysian nation. The main strategy of the plan was "a two pronged, NEP for development" which would first reduce and eventually eradicate poverty by raising income levels and increasing employment opportunities for all Malaysians, irrespective of ethnic identity. Second, the NEP aimed to correct the prevailing economic imbalances by restructuring Malaysian society and thus ultimately eliminating the present economic specialisation along ethnic lines. The Plan stated explicitly that the government, in order to achieve the targets set in the NEP, would devise and influence policies that would reflect at all levels of the multi-ethnic composition of the country. The NEP specifically aimed to reduce the existing income imbalance and control of wealth in the modern sector, by reducing *bumiputra* participation in traditional low-income activities, and by increasing the *bumiputra* role in the urban sector.

Under the provisions of the Universities and University Colleges Act, a common legislative framework for all universities in Malaysia was formulated. No higher educational institution with the status of a university can be established in the country unless the Yang diPertuan Agong (the King) is satisfied that its establishment is expedient to the national interest (Laws of Malaysia, 1971 : 6-7). In Malaysia's case, the United Malay National Organisation (UMNO), the country's major Malay party as well as the senior and dominant partner in the ruling National Front government, will have the decisive and final say. This was clearly demonstrated when the request of an influential and economically affluent group of Chinese backed by the Malaysian Chinese Association (MCA) wanted to establish the Merdeka University (Independence University) was turned down because UMNO opposed it. This university was to serve as a non-profit making body to meet the demands of those students who do not have the opportunity to pursue higher education in government financed and controlled local universities and to help the government shoulder some of the responsibility in education (Aliran, 1979). Any institution of university status, when established as a body corporate, should ensure that its constitution conforms to the provisions of the model constitution which is a schedule of the above 1971 act. This provision was incorporated to standardize the broad internal organisation and administrative structure of Malaysian universities. The act also ensured that no new faculty or course may be introduced at any of the universities without the prior consultation with the Minister of Education. In other words, political and administrative control by the state of universities was henceforth legally enshrined.

When the Universities and University Colleges Act was legalized for operation the Minister of Education was made responsible for the general policy direction of higher education and the administration of the various articles of the act. In 1972, a Higher Education Advisory Council was

established to advise the Minister. The prerogative of the University Council to appoint the Vice-Chancellor and Deputy Vice-Chancellors was now vested in the hands of the government and the Minister of Education in particular. Deans and Heads of Departments who were till then being elected were now being appointed by the Vice-Chancellors of the respective universities. The 1975 amendments to the Universities and University Colleges Act of 1971 provided for more heads of government departments or their representatives to serve as members of the councils of all the universities. This further strengthened the government's direct link of the country's universities. This direct link helped the government to monitor and co-ordinate that the overall university development was in conformity with the NEP and the related higher education policies of the country.

The philosophy behind this was the brute reality that education should be in harmony with the national aspirations of the country, particularly when the government finances each of the country's universities to the tune of more than 90 per cent of their annual recurrent budget. This cost to the government was due to inflation further escalated during the course of this decade. Therefore, it is difficult to ascribe any significant degree of autonomy to universities, de jure or de facto (Ministry of Education, 1980 : 5). On the other hand, the government justification was that it had to modify the structure of its educational institutions and gear their operations in the direction congruent with needs and expectations of the people. In spite of these constitutional amendments and considerable curtailment on the autonomy of the universities, the government assured the universities that they "can pursue their own academic ways so long as they do not contradict the national objectives" (Ibid). Perhaps the reason for this cautious restrain by the government might be two-fold. Firstly, the arcane-knowledge of the basic units is difficult for higher-ups to penetrate (Clark, *op. cit:* 177). Secondly, if too heavy-handed, it would lead to a demoralization of the academic system and its standards and ultimately to a severe brain-drain of this useful talent (*Ibid:* 178).

The official justification for the introduction of these changes and for moving the system towards a strong state coordinated system is that:

> "The new philosophy of the Universities in Malaysia therefore departs from the ivory tower concept of yesterday. While it may be time that innovative ideas and a critical examination of the government's policies and performances may contribute towards change, the NEP places the major responsibility on the government and its machinery (universities included) to steer the direction of development towards the targets as set under the NEP. In short, the universities are expected to play a role not merely as agents for change, but also as agents of change (Ministry of Education, *op. cit:* 17).

This new act and the philosophy behind the NEP precipitated a whole process of transformation in the university system from a basically British

peripheral model towards a national-cum-western model. However, it still remained peripheral in many aspects of its knowledge acquisition and dissemination. In other words, the universities went through a process of indigenization in its form and character to meet national aspiration. This was further accelerated through the gradual introduction in stages of *Bahasa Malaysia* (the national language, Malay) as the medium of instruction. This change over from English to *Bahasa Malaysia* was considered as an integral part of an overall national policy of not only bringing higher education closer to the needs and aspiratiors of the people but also to enhance the national unity of the Malaysian multi-ethnic society. Today, more than 90 per cent the higher education courses are conducted in *Bahasa Malaysia.* The government has urged intellectuals, researchers and specialists in the pure, applied and the social services to intensify the use of *Bahasa Malaysia* in their respective fields. The basic elements in the university system which were conventional in character began to deviate and change towards to meet situation specific demands. In this case towards a national model in its structure and organisation. However, in some respects forced legislations did help Malaysian universities' to move away from the continuing tutelary hand of the metropolitan universities.

The governments control of the institutions of higher education in the country was further strengthened when Parliament passed the Constitution (Amendment) Bill of 1971. Under the provision of this new bill, the higher education institutions were required to admit more *bumiputra* students to provide them greater opportunities in order to redress the existing economic imbalance between the *bumiputras* and *non-bumiputras.* In order to effectively administrator and implement the requirements stipulated in this bill, the government established a unit called *Pusat Universiti-Universiti* (Central University Admission Unit) in order to ensure that admissions into the universities is in line with the NEP. The implementation of this policy eroded one of the deep rooted traditions of the universities i.e. to allow each university to determine its admissions into them on the criteria of merit. Also, this unprecedented departure changed the ethnic mix of the student population in Malaysian universities. In addition as mentioned earlier to strengthen national integration and unity through education, universities were required to convert their medium of instruction in stages from English to *Bahasa Malaysia*—the country's sole official language-by the academic year beginning 1983. The usage of *Bahasa Malaysia* as the medium of instruction has to some extent given an initiative and hopeful impetus to the development of an indigenous knowledge culture (Gopinathan, 1984). In addition with the establishment of the Centre for Policy Research at the University of Science, Malaysia and the Institute of Graduate Studies at the University of Malaya there is a definite attempt to develop inter-disciplinary research in nature and content. This database which will be directly relevant to determine policy in development and so orient many of the course content in university teaching to suitable local examples. However, in spite of the fact that the lack of indigenous database content in the curricula has been

recognised and articulated at different levels, for a long time, there is still no attempt to initiate a country-wide policy to do so.

In consonance with this explicitly national oriented and directed policy from the government, the University of Malaya and other universities in the country have, like in Britian moved firmly towards *de facto* national system. We saw the administrative structure being induced to change considerably. It has moved away from a relatively autonomous system to a state controlled system. The academic community began to adapt itself rather quickly to these changes, too. It is changing fast from a universal to national perspectives in its orientation. Therefore, all the universities over the last decade have devised and implemented various courses and research programmes which are more relevant to the needs of country. The universities and their academics, both in the social and applied and problem-oriented research with particular emphasis on finding local solutions to local problems. This suggests that official and allied interest groups were able to override the traditionally strong power and privileges of academic organisations. It is clearly demonstrated that with pressure from outside particularly with political pressure, Malaysian universities which are essentially state financed could not go it alone.

Conclusion

In the examining the university system in Malaysia, it emerged that Malaysian universities as academic organisations have several basic features, elements and patterns which owe their origin to the British model. Malaysian universities are essentially teaching institutions. Therefore, they are organized to revolve in varying degrees around core disciplines like economic, medicine, physics and biology, history, which form the body of knowledge that is used in academic teaching and research. Therefore, discipline and to a lesser extent the academic organisation as a whole tended to be the dominant force in the working life of Malaysian academics. The Malaysian academic community though changing in its attitudes is still heavily individualistic and discipline oriented. They share this with various other academic communities across the Malaysian national boundary. This feature is further reinforced by the fact that academics too hold the view that cross-culturally they share in distinctive intellectual tasks and related codes of conduct with their fellow academics in their respective disciplines. In other words, there is a cross-national convergence in certain basic elements of academic orientation and on the organisation, roles and functions of universities. This made universities too, to some extent meta-national and international. Since Malaysian universities were transplants of British models, they too were incorporated into this international league.

However, on a closer examination and analysis of Malaysian universities, we saw that some of the basic features that the universities inherited from their conventional parent British universities inhibited them from being relevant and nationally oriented. Therefore, they were unable to fully integ-

rate themselves into the national development milieu which Malaysia embarked upon with independence in 1957. Political expediency therefore necessitated the state's direct intervention, in order to precipitate drastic changes in the structure, role and functions of Malaysian universities so as to enable them not only to reflect national aspirations but also to cope with it in terms of their relevance to the national development. In particular, it was reflected in our analysis that the Malaysian universities were not only to devise a developmental orientation that was more suitable to come to terms with their own rapidly changing political and economic environment. Under these circumstances the state's intervention has moved them more towards a national model. However, they still maintain peripheral in nature. In other words, Malaysian universities are diverging away from the British model.

This is largely because universities in Malaysia are heavily dependent on the provision of resources from the state to discharge their goals. Therefore, though academic organisations are indeed unique structures they are part and parcel of the environment in which they are pouched. Thus, in order to understand them we cannot see them as isolates or a relatively autonomous sector of modern society. Instead we have to see and understand them as a phenomenon interdependent with other parts of society and primarily within the boundaries of the society. In the Malaysian case the very body politics of the society has played a crucial role in contributing to a divergence of the roles, functions and organisation of its universities from reatining action patterns that have been underlined and evolved over time which are cross-national in nature. In spite of this Malaysian universities still remain to a large extent on the periphery in the generation, enchnacement and dessimination of knowledge.

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Author's note—the views expressed are personal of the author and do not necessarily represent the views of the Commonwealth Secretariat.

African Universities and National Development

HERME J. MOSHA

The University: A Definition

> A *university* is an institution of higher learning, a place where people's minds are trained for clear thinking, for independent thinking, for analysis, and for problem solving at the highest level

The broad definition suggested by Nyerere provides a general meaning of a university anywhere in the world. Hence, Nyerere (1970) found it prudent to elaborate on the definition by maintaining that a university has three major functions, which are:

> to transmit advanced knowledge from one generation to the next so that it can serve either as a basis of action, or as a springboard to further research;
>
> to provide a centre for the attempt to advance the frontiers of knowledge by concentrating in one place some of the most intellectually able people who are not preoccupied by day-to-day administrative or professional responsibilities, and making available to them good library and laboratory facilities which are necessary to support learning; and
>
> to provide through its teaching for high level manpower needs of society.

Nyerere (1970) sees the three functions as interlinked; and he cautions that any university which attempts to prohibit any of them would most likely die. The functions of a university suggested by Nyerere (1970) form the core

of the discussion in this paper. These functions are expanded and critiqued elsewhere in the presentation and discussion of the university's roles.

Development and Development Education

Harman (1976 : 8) maintains that the term *development* is used in relation to nations of Africa to connote "a desire to transform societies and economies into modern ones". He adds that traditionality and underdevelopment are viewed as virtually synonymous terms, as modernity and development.

Modernization theories emphasize stages of development. Rostow (1971), an advocate of these theories, maintains that at an earlier stage low-income countries were on the same trajectory of economic growth as high-income countries. Technological advances helped them to advance faster than under developed nations.

Strategies of development derived from these theories involve the adoption of techniques for accelerating the transition from one stage to the next. Harbison and Myers (1984) maintain that economic development would be achieved by the transfer of capital and technology from high-income countries, or improved training (Beeby, 1966). According to this theory, "universities are critical agencies of modernization and development in backward countries (Arnove, 1980 : 54)."

This school of thought has several weaknesses. First, although it acknowledges that low-income countries were, at an earlier stage, on the same trajectory of economic growth as high-income countries, it does not provide objective reasons why some countries become developed while others remain underdeveloped. Second, little evidence exists to show that merely improving education without looking into existing socio-economic relations between rich and poor nations would automatically lead to the readjustment of existing forces of production and production relations. Finally, the modernization theory sometimes overlooks important social issues such as equity, and assumes that while underdeveloped countries are trying to modernize, developed nations will remain idle, waiting for them to catch up: an argument that is both utopian and impractical.

Hence, underdevelopment theorists have questioned the argument that modernization and a connection between high-income and low-income countries aided development. McLean (1981: 158) argues that:

> ...advanced metropolitan countries retarded or distorted development in poor, peripheral countries. Foreign investment did not lead to increased capital accumulation needed for growth since exported profits exceeded capital inflows. Foreign capitalists distorted development by channelling investments into sectors such as mineral extraction or cash crop production which did not contribute to the growtn of other areas of the economy and where prices and levels of production were fixed to suit metropolitan interests. Foreign economic penetration was associated with social and political underdevelopment.

Baran and Sweezy (1966) and Frank (1969) have added that the urban sectors of low-income countries have never been the vanguards of development suggested by the modernization theory. They have, however, been mini-metropoles where the local elite act as agents of capitalist foreign interests, aiding the overflow of profits, collaborating in the oppression of rural populations and identifying with the metropolises rather than with the mass of the people.

Fanon (1967) and Carnoy (1974) maintain that education systems, according to adherents of the underdevelopment theory, supported this economic exploitation. Higher education was given priority. It trained administrative intermediaries for the process of capital exportation and inculcated the political and social values of the metropolitan countries.

The underdevelopment theory, therefore, suggests a number of strategies for development, which must involve:

> Greater investment in the rural economy in order to create linkages with the urban economy to attain self-sustaining economic growth;
> Creation of markets in developing countries and the elimination of dependence on foreign investments;
> Integration of economic and social aspects of development and redistribution of wealth;
> Emphasis on small-scale agriculture, which has to serve as a nucleus for development so that it can create a surplus for further growth of the whole economy;
> Encouragement of cooperation and self-reliance by local communities in the implementation of agricultural activities.

Hence, higher education would assume a pioneering role in realizing these objectives.

McLean (1981 : 159) maintains that:

> under-development theory provides useful corrective measures for some of the assumptions of the stage-of-development type of modernization theory. It showed weaknesses of historical-law of theory ... It indicated that metropolitan-periphery relationships did not necessarily benefit the periphery.

But, the strategies derived from the underdevelopment theory contain several flaws. The writer maintains that experiences from countries that emphasize nurturing social equity (such as the whole Eastern Bloc) have been unsuccessful in realizing goals of economic growth for lack of competition often results in little motivation to work harder than others. Furthermore, although a greater investment in agriculture is evident in the initial stages in order to generate surplus for investment in the modern sector, undue attention to the production of cash crops has increased dependence on developed countries for markets and diverted the countries attention of

producing enough food crops. Hence, problems of dependence and famine are on the increase. Small-scale agriculture is not cost-effective either.

In addition, developing countries need to realize that sentimental resolve to eliminate dependence on foreign aid does not work. What is needed is an intelligent selection of aid packages. There is a need to be realistic, as a colleague once put it "we need to use the north effectively in order to create any meaningful south-to-south dependence or relationship."

Finally, an issue that is not discussed under the under-development theory is whether or not people in these nations invested an effort in developmental activities equal to their counterparts in developed nations.

The writer, therefore, maintains that neither the modernization theory nor the under-development theory provides an adequate model for enhancing development in Africa. Combining the strong and feasible as well as workable notions from both theories into some eclectic theory might prove to be more realistic. Hence, ensuing discussion in this paper relies on salient feasible and workable notions of development from both theories.

(*i*) *Development Education:* Under the eclectic model, development education has the following functions. The University has the primary role of initiating, supporting and accelerating development by promoting social modernization and inculcation of the skills and knowledge requisite for participation in modern economic enterprise. Deutsch (1961 : 463) argues that the key objective in the process of development education is to ensure that "major clusters of old social, economic, and psychological commitments are eroded and broken and people become available for new patterns of socialization and behavior."

Nyerere (1964) adds that the university must endeavour to prepare students to understand society, and know the problems of their country so that it can arm them with the right weapons to engage with the three key enemies—poverty, ignorance and disease —whose names have become common, but which oppress us more than ever. Nyerere (1964: 308), however, cautions that there is no short cut, nor easy solution which can be applied to these problems. He emphasized that:

> Slogans will not give our people more to eat; and nor will blaming our failures on any other country or on any other group of our own people.
>
> We now have no alternative but to apply ourselves scientifically and objectively to the problems of our country. We have to recognize the facts and conditions which exist. We have to recognize the poverty, the ignorance, the disease, the social attitudes and the political atmosphere which exist, and in that context think about what we want most to do and how we can move from the existing situation towards one which we like better.

Nuffic (1978 : 64) is also of the opinion that:

> the pursuit, promotion and dissemination of knowledge under the development education model should be directed at raising the level of intellectual development of the individual, since he is both the agent and object of development.

Man is, therefore, seen as being the centre of development. The end of development according to Wandira (1981 : 267) is "the improvement of man, holding out the promise of greater social justice and giving tangible effect to the principle of equity".

Furthermore, development education according to Harman (1976 : 13) must address the total range of developmental needs and experiences of a community and see them as they are, as an integrated and entirely coherent, indivisible set of circumstances. Development education therefore calls for universities to plan and implement programmes and projects that are relevant to national needs. Implementation of developmental education in African countries has been thwarted by a number of problems that are discussed in ensuring sections.

Problems in the Transitional Era

Wandria (1981 : 256) cautions that consideration of the role of African universities in national development should take note of the fact that:

> The African continent is vast and its problems are many. One cannot attempt the same treatment for universities of Anglophone, Francophone, Arab, former Spanish, former Portuguese-Africa for South Africa.

Despite this caution, which is essential to guard against sweeping generalizations about relationships between the university and the community, the writer maintains that there are vast similarities in the African context which cannot be ignored either. It is a fact that, apart from a couple of countries in Africa, the rest were under colonial domination up to late fifties. Per capita income in most such countries ranges from US$ 120 (1980) for the poorest country to US$ 8,640 (1980) for the richest. World Bank (1982 : 12). Hardly any country in Africa can claim that it has overcome the problems of poverty (hunger), disease and illiteracy, the major obstacles to development. Hence, cooperation of any kind could lead to a more rapid solution of these problems. Nations and their institutions could learn from each other's experiences.

The planning of Universities in Africa, intended to serve as agents of national development, has been difficult due to the following specific reasons.

> Slow incremental changes have been made in inherited institutions in order to maintain some degree of harmony and ensure smooth transfer of power to the nationals.
>
> A majority of African universities are still in an embryonic stage, as

most of them were established in the past few decades. Hence most of them are still engaged in building their institutions.
Inherited colonial models of education although inadequate and inappropriate, are yet to be dismantled.
More emphasis has been placed on developing local staff needed to provide effective teaching, promote research, attract diverse sources of finance, and manage increasingly complex institutions than trying to severe university's dependence to the metropole.
Academic staff recruited from different nationalities (i.e. 15 nationalities at the University of Dar-es-Salaam—Court, 1980) with different ideologies and goals; have been difficult to meld together into thinking about and appreciating problems of underdevelopment.
Staff in various fields have been graduating from various institutions and programmes, so attempts are still being made to meld them together in order to plan and implement programmes harmoneously.
Glaring manifestations of tribal chauvinism, parochial sentiments, religious and language barriers have prevented staff from cooperating in their daily undertakings. Hence, time has been concentrated in trying to heal such divisions and strife.
Traditional notions of education which were according to Knowles (1974 : 231)

> ...based on the mechanistic model of man which defines the human being as a passive robot, reactive organism which is inherently at rest... The purpose of education is seen as to transmit the culture, fill the empty vessel, shape the individual to a predetermined mold. The role of the learner is essentially to absorb transmitted information, have been continued.

Davis (1976 : 41) adds that university education in this context is taken as "schooling in literacy and morals to fit the needs of the masters. The professor/student/book/classroom are joined, and cognitive learning is the major outcome.

University education facilitates moving people out of the traditional sector into a modern sector which has not yet been created.

The education provided has been irrelevant to the objective needs of society, for it is not based on life experiences, cultural realities and the environmental cues. Mazrui (1975:198) maintains that:

> the cultural goods which African universities import include course content, language of instruction, and evaluation systems. Instead of teaching African language, music, and folk culture, the universities continue to sell cultural goods marked 'made in Europe.'

Dependence on teaching and learning materials, especially on obsolete

texts, which have created what Altbach (1975) calls "literacy colonialism and servitude of mind."

Planning of activities which do not take into account varying mores, beliefs, roles, modes of socialization, behaviours, and normal practices that exist in different societies. Hence, activities that have been planned have been little modified for the cultural characteristics of those who are being taught.

Insistance on examinations that demand a lot of regurgitation. So learning and cramming for examinations, without reflecting on the usefulness of what is learnt, has become a common practice.

Continued reliance on metropolitan standards in judging the quality of students to ensure that they measure up to international standards. This practice has been sustained by a continued reliance on external examiners and expatriate professors. Such a practice represents the desire and pressure by local elites to ensure that the local universities to which they sent their children are 'academically respectable' in metropolitan terms (Bacchus, 1981). Hence, Hall (1978 : 3) argues that "knowledge has become a big business ... a commodity which is exchanged and shaped by material social relations".

Continued reliance and encouragement of consulting, professional entrepreneurship and applied research by expatriate staff. Such a practice has denied indigenous professors opportunities to expand and develop their competencies.

Acute shortage of resources to facilitate the implementation of the desired changes.

Tendency to establish control over the university through its administration, usually by political appointments, congruent with that of the power elite, without due consideration of academic merit. Young (1981 : 153) argues that such a practice blurs objective competition and merit and makes "the relative qualifications of the contenders fall into a gray zone of ambiguity." Hence, 'yes men' and a culture of silence is perpetuated at universities.

Despite these and many other outstanding problems and situations, the African university is still expected to fulfill the following roles.

The Role of University in National Development

African universities have three principal roles that they must undertaken in order to enhance national development. These roles are training per se; preparation for service; and planning, organizing, implementing, evaluating research results, disseminating results, evaluating impact and effecting changes in research and consultancy activities. A brief presentation and discussion of each role is provided in the following sections.

Promote Respect for Learning and Pursuit for Truth: Any good university,

worthy of the name, is expected to exercise a high degree of objectivity in the search for truth and advancement of pure knowledge. Pursuit, promotion, and dissemination of knowledge is important so as to raise the level of intellectual development of the individual who is both the agent and object of development. This conceptualization fits well with notions of the "educated society" suggested by Wandira (1981), the schooled elite (Nyerere, 1964) or reflective individuals who fit their eyes beyond the here and now to visions afar (Court, 1980). By undertaking such activities, universities continually preoccupy themselves with the search for truth and the acquisition of new, pure knowledge and skills that enable them to have an objective picture about reality.

Nyerere (1966 : 183), therefore, thinks that in African universities:

> Students must be helped to think scientifically, they must be taught how to analyze problems objectively, and to apply the facts they have learned—or which they know exist to the problems which they will face in future.

He adds that staff must be encouraged to challenge the students and society with arguments, and put forward new suggestions about how to deal with various problems. Universities were not founded, therefore, to produce intellectual apes, but men and women who had the duty to contribute to man's pool of knowledge.

Nyerere (1980), Kamba (1983) and Ngeno (1984) have, however, added that, whereas lecturers and professors should be allowed to analyze and discuss problems as objectively as it is ever possible, they need to shun away from exaggerated emphasis on the paramountcy of knowledge for its own sake. They see the main function of a university is to play a crucial role in solving societal problems by coming down to earth and addressing the problem of ignorance, hunger, poverty, disease and poor living conditions facing our nations. Nyerere (1980) has categorically stated that a university that only produces theoretical 'yes men' is little better than useless. These observations lead to discussion of the second role of a university.

Preparation for Service: This role area can be subdivided into two subcomponents-training for high-level manpower requirements of the nation, and training for problem solving.

Training for high-level manpower requirements. Ahmat (1980 : 724) maintains that "trained and skilled manpower is one of the most critical economic requirements confronting institutions of higher learning in developing countries. This is so because man is *the life* in any national or industrial development plan; *the thought process* in the operation; if he stops, all things come to a halt. The quality of the human resource input and nature of interactions highly affect the quality and quantity of outcomes.

Needless to say, any new technology that is being used in the contemporary world is a product of man's thinking and experimentation. Hence,

African universities are expected to develop enough, competent personnel to assume key managerial, administrative, technological, and professional responsibilities in both the public and private sector. University education is therefore seen to be an important way of preparing and developing individuals with knowledge, skills, abilities and experience to assume such responsibilities efficiency and effectively.

Apart from just training, NUFFIC (1978) maintains that African universities should assume the responsibility of assisting in defining manpower needs in both the long and the short term, and, by cooperating with governments in both respects, help minimize any mismatch between available graduates and employment opportunities that are due to a lack of knowledge of manpower needs for the absence of clear policy on manpower training. Universities can also help government in formulating a proper structure of incentives (moral and material) to bring about a proper distribution of manpower in terms of fields of employment and geographical location. Universities can also help overcome socio-economic imbalances by maintaining closer contact with society in order to appreciate its needs and by designing curricula and programmes of study suited to the needs of society in terms of the types of educated and trained personnel required.

Wandira (1981), however, argues that since the most popular and scholarly of university teachers are not always in fields of high "developmental" significance, how could one ensure compliance with manpower targets without coercion occupying the minds of university leaders! Court (1980: 663) adds that:

> ...beyond the obvious professions where expertise is tied to a specific body of knowledge, as in medicine, it is not clear that tying university education to precise vocational purpose is either an optimum use of university facilities or produces the kind of outlook required for the type of actual jobs into which students go.

He argues that:

> Management roles in the public and private sectors...and leadership in the complex process of economic and social development, are not necessarily prepared by mastery of bounded areas of knowledge as opposed to the development of a flexible mind and trained imagination.

He also wonders whether universities and not other tertiary institutions were best designed to provide vocational and professional expertise. He, however does not provide clues on whether universities could not effectively assume such role. Court (1980 : 665) also fears that:

> ...intimacy of philosophical and structural relationship between university and the government could produce an unreflective conformity on the

> part of staff and students which may in the long run be more damaging to the university development role...

Despite Wandira's and Court's criticisms of the notion of training for a career, the writer maintains that it is important that what happens in African universities is infused by an awareness of conditions and priorities in society so that training becomes a preparation for life. Meanwhile, universities should also permit a large measure of reflection to exist for production of knowledge, the encouragement of original thought and the exercise of imagination.

Other considerations to be made in the training of manpower is to produce graduates who are well equipped to promote social and economic development—training for problem solving.

Training for problem solving. In promoting economic development and growth, Slaughter (1985 : 48) maintains that African universities could implement industrial liaison programmes "designed to enable corporation and the faculty to function as partners in technology transfer". Faculty are also supposed to deliver training programmes, applied research and technical assistance to state business.

Grabowski (1983 : 9) feels that education that is meant to promote social and economic development should involve:

> ...several components, including training to perform the immediate job, training to help the individual to anticipate and accommodate changes, and training to help the individual prepare for future advancement and pomotion. These kinds of training will produce workers who are not only competent to perform their immediate tasks but also, and more important, motivated to keep on learning.

Davies (1976 : 49) thinks that programmes tailored in such a way help "to introduce the discipline of work, the realism of production, and the motivation of earnings, and to enhance the self-concept and sense of efficacy of some who cannot gain them in *purely* academic programmes".

The writer is of the opinion that when a university participates in work programmes, it should be in those ventures that pose challenging problems which cannot be adequately handled by lower educational institutions. It should be able to provide technical skills necessary to help answer some questions on specific problems facing society, as well as develop a proper attitude towards the work and the people they will serve, with a minimum of bureacratic blockage.

Specific areas require special attention. The first is Agriculture, which is supposed to facilitate production of adequate food to feed the hungry on the African continent. Since rural development forms an important part of national development programmes in most African countries, special attention ought to be paid to agricultural sciences so that more and quality graduates are produced annually. Existing potential, particularly in fisheries

and other national resources must be *carefully* exploited, and returns used to feed the hungry. There must be deliberate plants to combat deforestation which is turning vast sections of Africa into desert, by changing university faculties of agriculture with the responsibility of developing a *workable* afforestation policy and, in liaison with government departments, oversee its implementation, and evaluate its outcome and impact.

Government and facilities of agriculture should also realize that the old distinction between food and cash crops does not make much sense, at least on the African continent, for money spent on buying food far exceeds that earned from the sale of cash crops. Hence, a concerted effort must be undertaken to balance the production of both food and cash crops in order to ensure that there are adequate supplies to meet both demands. Since success in agricultural production depends on the use of modern, scientific knowledge, skills and resources. African universities should provide successful models on *how* to produce more efficiently, not only in the laboratory, greenhouses or experimental plots, but also in real farms.

In technical education, universary education ought to be related to national needs. Studies in selected African countries. World Bank (1975), show that there is an acute shortage of professional engineers and technologists who can mesh their training to solve practical problems related to water shortage, agricultural and industrial inputs as well as provide maintenance services. Hence, manpower with scientific background and specialized training is required. The major issues at stake, however, is how African countries are going to develop enough graduates in an area lacking support by foreign donors due to their desire to maintain technological dependence. Suggestions on how to solve this problem are provided under the section on cooperation.

Apart from the provision of agricultural and technical education, African universities need to develop managerial skills among staff and students. Ahmat (1980 : 733) maintains that there is "need to have well trained administrators and managers ...in sufficient numbers to organize the public and private sectors where rapid technological progress is taking place". Universities also need to develop managerial technocrats who have a strong foundation in the quantitative aspects of decision-making techniques. Consequently, Ahmat (1980 : 73) maintains that there is need now to develop "minor programmes in Management which are open to students who are majoring in the sciences".

> ...traditional and current modes and organizational mechanisms for delivering public service activities must be improved in ways to respond appropriately to public needs and to retain institutional integrity, coherence and unity, Improved mechanisms should include more flexible instructional patterns and "boundary" devices that enhance the university creation and dissemination of knowledge mission while responding to

public policy and other needs of external publics. Service programs should be disciplined, evaluated, and reviewed with as much internal scrutiny and precision.

Slaughter (1985) is also of the opinion that appropriate management is needed in universities to ensure the smooth flow of resources and insure provision of required services by the technocrats and allow them to excel; reduce unnecessary intervention that threatens faculty professionalism, and create a climate that is conducive to research and development. Proper management might also encourage discovery and creativity which might lead to technological breakthrough, development of the desired values and attitudes necessary to stimulate economic development.

Ahmat (1980 : 736) thinks that science education and advanced training in management "must not alienate people from their cultures". There is great need to *develop aesthetic sensibilities* so that the educated can learn to appreciate social problems, the fine arts, the traditions, religions, history, ecological and demographic characteristics of their society. Better understanding of the multifarious cultural background of society is important in order to find ways and means of reducing prejudice, intolerance, jealously, fear and even hatred, and hence, pave the way for a smoother path towards national unity and regional cooperation.

Orientation of all staff and students to problems of underdevelopment also appears to be necessary so that there can be a firm introduction to the nature and causes of technological, managerial and socio-economic problems and patterns of development in their own society along with paradigms of their analysis. Court (1980) thinks that an effort already started at the Universities of Nairobi and Dar es Salaam could be emulated elsewhere.

The University as a Research and Consulting Institution: African universities, like other universities the world over, are expected to undertake *fundamental and applied research.* NUFFIC (1978 : 65) maintains that the basic question that African universities ought to address themselves to is "whether fundamental or applied research carries greater priority for national development". Although current demands show that research should be geared wherever possible to development issues and directed at solving basic needs, NUFFIC (1978 : 65) argues that "research in a problem-oriented context may, however, throw up fundamental questions requiring investigation by the university concerned". When answers to such questions are sought there would be a significant contribution to theory.

Long (1977 : 85) adds that:

...instruction and research is service of the highest order and place a high priority on service activities that link the university and community in further pursuit and search for knowledge. The service mission must always be kept in appropriate balance with the instructional and research strengths and resource of the institution.

Ahmat (1980 : 735) notes that "although research has received attention from universities and various government agencies, what has been lacking is specialized and well coordinated institutions dealing with problem-oriented studies". He feels that local expertise could be mobilized to play a more important role in deliberative activities as well as in actual formulation and monitoring the development of concrete plans. Hence, he suggests establishment of a centre or centres for Policy Research. The aims of such centre or centres would be to enable the university to undertake research, including commissioned research for government and other public and private bodies, on a scale and over a range of problems that would not have been possible within existing academic structures.

The writer maintains that Africa's chronic problems related to acute food shortage and famine, disease, political instability, flux of ideologies and unguided political experimentation, ethnic and religious tensions, fast growing population, drought, poor technological input and, sometimes, laziness should be given the highest priority for research so that emerging data could be used to improve practice. These are urgent issues that require attention NOW. Results should be discussed by all concerned parties and should be made known to policy makers. Results must also be disseminated to all concerned parties, suggestions implemented and the impact subsequently monitored.

Kobayashi (1980 : 692) adds that strong government initiative and coordination, and "the clarity with which the government *views* the purpose of the university" contributes substantially to a nation's development record.

Slaughter (1985 : 47) also thinks that a university's commitment to research can be enhanced if :

> the advancement of specialized knowledge is acknowledged as a continued high priority. Distinguished research professorships are also suggested as a means of rewarding highly productive researchers.

Universities can also help to bridge gaps that exist between government and the people by organizing tripartite research teams drawn from ministries, universities and informed members of the community.

Since research activities require enourmous financial resources and staff with the capacity necessary to plan, organize, implement, disseminate and evaluate the impact of research on national development, greater cooperation among departments and faculties within a university and across universities might result in better conceptualization and implementation of research studies. Societal problems are hardly discreet in nature. They are normally an outcome of interactive forces in society. Hence, a multidisciplinary approach that demands use of knowledge, skills and experiences from various fields for adequate resolution is important.

Cooperation is even more desirous in the production and dissemination of research findings in order to "maximize efficiency, reduce harmful com-

petition, and mutually assist each other's efforts (Beder, 1984 : 7). One area where cooperation is particularly needed today is in publishing research findings so that enough relevant books can be developed for use in universities and other educational institutions in Africa. An acute shortage of books and journals published in Western countries, due to lack of foreign exchange. makes it even more important for African universities to forge cooperation in this area.

Whereas cooperation is desirous under the above mentioned conditions, individuals without adequate research experience need to be aware that join research can be a tedious undertaking that takes protracted time when not properly coordinated. Joint research can also be superficial as it might concentrate on general issues that all participants can easily decipher and as a result sacrifice disciplinary rigour.

Hickley (1985) thinks that participation and cooperation should be encouraged only if skills and knowledge from other parties needed for a specific task lead to clarity and efficiency. The intensity of need for cooperation fluctuates. It takes time to elicit cooperation. The rewards system must be clear; hence, cooperative endeavour require understanding and support of people at many levels in the participating organizations. Roles, tasks and relationships must be clearly structured so that agendas and degrees of cooperation in all modes are specified, at least in broad terms. Hence, the guiding principle of cooperation is reciprocity.

Beder (1984 : 15) adds that "the basis for establishing cooperation relationships is mutual, reciprocal benefit". Continuous professional contact and communication can also help develop mutual understanding and should therefore be promoted by all possible means.

NUFFIC (1978) offers other important tips woth considering if cooperation is going to succeed: the viability of the proposed project; the availability of adequate resources to support the proposed project, the feasibility of executing the project in the light of the probable attitude of the sponsoring government towards the project and the country concerned, the likely interest and commitment of a counterpart institution and the pertinence of the project in national development. Highly developed research capacity among researchers and consumers in given countries is also desired for cooperation to be meaningful. Where interruptions (social, economic, political or technical) are minimal, cooperation will likely be enhanced.

One other major issue of concern when examining how research can contribute to national development is salient consideration about the level of research capacity among staff and consumers. One needs to know how much research activity exist and in which areas. If it is low, what are the reasons? How can associated problems be solved? If it is high, how can quality be sustained and improved upon?

In addition, what happens to research products? Are they discussed? In what forms? Published? Disseminated? Are recommendations implemented? Impact evaluated?

Problems Hindering Universities' Realization of their Roles

A majority of transitional problems cited elsewhere in the paper have had some attention paid to them, but satisfactory resolution is yet to be realized. Few African universities have attempted radical reforms in their curricula or severed relations with metropolitan universities in an attempt to develop independent and more relevant programmes. Because post-graduate work is still being done overseas, dependence continues, coupled with inculcation of norms and attitudes opposed to those that most African nations aspire to develop. Teaching and learning materials are still being imported. Tribal frictions often manifested in civil wars and religious differences such as the Islamic Jihad, still predominate in political and academic climates in African universities. Despite these continued problems, the immense contributions that African universities have made during the short period for their existence cannot be overlooked.

Universities have produced manpower that currently fills many strategic positions in government, industry, the public and the private sectors. They have also striven to integrate men and women with varying social, economic, tribal and religious backgrounds under one roof and provide some education for them. African universities have also attempted to develop research and consultancy skills of international standards among local staff. Because these skills are recognized both locally and internationally, the brain-drain from these poor nations continues. Most universities have also devised their evaluation criteria and, they are currently administering locally made examinations, and issuing degrees and diplomas in their own names.

With higher levels of localization of staff and the issue of relevance being a more serious consideration in African universities, the real problems that now hinder them from realizing their roles warrant some discussion. Four key problems will be discussed at this point in time: the shortage of human, financial and material resources; inept managerial and administrative machinery; political turbulence and blind ideological commitments, and lack of direction.

The human resources under discussion include quality professors, researchers and consultants who are able to implement various roles cited in preceding sections. Not only do African universities lack the required numbers, but the ones that have already been developed constitute a mixed bag that might be difficult to mesh together to do meaningful work. The talented few are also leaving for assignments in other universities or international organizations where 'there are greener pastures!' Hence, not only is Africa losing its most brilliant professors but it is facing an enormous exodus of expatriate staff, who are no longer prepared to remain either because of political turbulence, low salaries, poor living conditions or because of the fact that governments cannot remit their salaries overseas. Hence, a number of universities are left with newly graduated staff who lack experience, or old and bogus professors whose marketability elsewhere is low. Due to an acute shortage of quality staff, the remaining few are obliged to carry

heavy teaching loads, use the lecture method in teaching, and rely on "yellow notes" because they do not have the time to upgrade their materials.

This problem is further compounded by the extreme shortage of foreign exchange which makes it difficult to buy up-to-date textbooks, essential journals, apparatus, equipment and chemicals that are required to implement their tasks well. Due to this immense shortage. African universities find it extremely difficult to carry on any experiments, keep abreast with recent developments in all subject areas of specialization or do large-scale research.

Given these problems, African universities should not merely talk about them. As Nyerere (1964 : 308) stated, slogans will not give us solutions to such problems. Instead, he urges that "we now have no alternative but to apply ourselves scientifically and objectively to the problem... We have to think; and then act on the thinking."

Experts from African universities need to come together and start producing relevant teaching and learning materials. They need to rely on local and foreign assistance to start with, but ensure that proceeds from sales of their materials are used to produce more materials. The experts also need to create an awareness among politicians and government bureaucrats by using objective data to enlighten them about the effects of different investment policies. The writer is convinced that sometimes the problem in most African countries is not shortage of foreign exchange *per se*, but the enormous diversion of funds into the army and ideological experiments that do not work. Hence, by using objective data, and opening up dialogue by applying strategically the politics of expertise suggested by Benveniste (1977), more rational investment policies might result and, allow more money to flow into viable university projects and programmes.

Inept managerial and administrative staff also have some adverse effects on the university's effect as an instrument of national development. First, since most of them are government appointees, they are sure to act as 'good boys' to defend the system at any cost, for they know that once they assume this position, their appointments will be secure.

Appointments either of ex-politicians or of active politicians to positions in universities, creates an atmosphere of mistrust between academicians who want to analyse reality objectively, and administrators who want to defend the status quo. Furthermore. the administrators (vice-chancellor, registrar, and other chiefs) may be less qualified than professors. Hence, in their effort to overcome an inferiority complex, they tend to issue blind orders, which are not in most cases headed to, causing more conflicts. Therefore continuous friction exists between the two parties. Solving problems facing the institution and the nation becomes difficult, as each party would not wish to see the other get credit.

The writer is of the opinion that it is high time that African universities realized that objectivity and merit are true reflections of democracy, and any underground appointments clearly reflect nepotism, patronage and totalitarianism—enemies that must be fought against at any cost. Search committees, using the objective criteria of merit have been used elsewhere

in the developed world, and there are no objective reasons against the use of such procedures in Africa.

Political turbulence is such a touchy issue that it would be naive for one to give specific suggestions. One needs to realize, however, that the major causes of political turbulence in most African countries are ethnic and religious differences, dislike of objective opposition by politicians, poverty, and to some extent, external interference. African universities cannot pride themselves in having objectively studies the nature, cause, and effect of such problems, or of having communicated research findings effectively to government and yet had their suggestions rejected. Hence, not only is it timely, but it is also appropriate that such studies be initiated NOW and the outcomes disseminated to the right authorities.

Furthermore, most African countries seem to be switching from one ideological orientation to the other without any convincing evidence that it will work. Needless to say, some countries have no ideology at all, but are only clouded in a wave of ambiguity and confusion. University professors are duty-bound to generate data that will help politicians realize the consequences of their choices, so that they can initiate required changes.

When one purports that African nations sometimes lack direction, one means that priorities have not been presented quite clearly; and if they are, resources and effort required to implement them have been directed elsewhere. Worse still, are included to talk about our problems without initiating any action. Kobayashi (1980 : 681), for instance, maintains that Japan's technological might today arose from the government's commitment to ensure that "industry was coordinated with the university." Hence, moral and material incentives were given in support of the university's undertakings.

This success story is worth studying (refer to Kobayashi, 1980 for details) for African politicians continuously chant that "agriculture is the backbone of our economy" without finding out whether effort has or is being directed towards realization of this goal. Universities, however, have not endeavoured to help governments to establish realistic priorities nor advised them on the effect of choices made. Hence, closer cooperation between the two is recommended.

Conclusion

Using an eclectic approach, this discussion has focussed on the role of African universities on national development. It has been noted that the conception of the university has given way to newer and more urgent concepts resulting from pressures upon the university to change. From its ivory-tower romance, the university has come to feel pressures of accountability that require it not only to produce an educated elite but also to prepare people who can come down to earth and analyse and discuss several problems facing our nations as objectively as it is ever possible, and find ways and means of solving them.

It was clearly spelled out that, in order for universities to be able to

realize these broad salient goals, impediments to organized effort that are encountered in African universities and African nations need to be overcome. The goals could be realized either through objective reexamination of the problems, with the university providing expertise, while the government provides required support. Since some problems require pooling together resources from other universities and international agencies, cooperation is encouraged between and among such institutions and agencies. Trust and commitment or reciprocity ought to guide cooperative relationships.

African universities and nations need to be 'crystal clear' about their developmental priorities and ensure that they are constantly working towards their realization. African universities should continuously exercise their enshrined right of objectively, criticizing government action through reliance on empirical research, but at the same time being self-critical.

Finally, African universities are going to be judged not only by intelligent discussions, good experiments in the laboratory or greenhouses, or excellent research, but also on how such achievements are being used to create a better society in which people of African can lead a decent life.

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Social Science Research in Vietnam

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THAT the role and responsibility of the social sciences in Vietnam are separable enough from those in the most of the Third World countries is a truism. But there is much more. It is not simply the epistemological need for a value-ladden praxis oriented commitment to the oppressed classes and nations, and closer identification with the State and Government that the social sciences in Vietnam are distinct from their counterparts in the non-socialist Third World countries, but more precisely, due to the overriding stress on the Vietnamization of the subjects. The explicit nationalistic trend in social science research has not only consolidated its relationship with the State and government but also provided a greater intellectual autonomy. Meanwhile, the gap between the professional researchers and a large number of amateurs from among the producers has diminished. At the same time, the pragmatic research has naturally evidenced certain difficulties in bridging the Marxist theoretical discourse and the phenomenal world, and thus generated new developments in Marxist perspectives. In other words, Vietnamese social scientists are contributing to the building of socialism, unpolished and ingenuous but without relinquishing any of their own characteristics.

One may however notice some irrational phenomena here and there, but those cannot be understood in isolation from the long history of war which has upset and disarranged everything. In a sense however, the very same facts, appear to have contributed to the process of Vietnamization of social sciences, provided greater independence to the social scientists, and helped in breaking down the traditional barrier between trained researchers and the unskilled producers. It is within this general context that we outline the current social science researches in Vietnam. Special attention will be

paid to history, sociology, ethnography, archaeology, folklore and Southeast Asian Studies.

Organization of the Social Science Research

Starting from almost a scratch at the time of August Revolution (1945) and three decades of subsequent war (1945-75), the progress of social science research in Vietnam is commendable. During the 1950s, a number of scientific research centres were established. In 1953, the Committee for Literary, Historical and Geographical Research was founded. The department for research on party history was organized in 1956. Soon, the State Committee of Sciences, embracing both natural and social sciences, came into existence in 1959. But in 1965, the Social Sciences Wing was detached from the State Committee of Sciences, and the Vietnamese Committee for Social Sciences (VCSS) was set up. The other parts are the committee for Science and Technology and the Institute of Sciences for Management. Once again the State is seriously contemplating to unite all these under the Academy of Sciences, which will be the highest scientific body with a task to organise and carry out research in all branches of social and natural sciences on the national scale.

The Vietnamese Committee for Social Sciences (Uy Ban Khoa Hoc Xa Hoi) was established with the expectation that it would (i) contribute to a further understanding of Marxist-Leninist theory and enumurate the revolutionary lines of the Communist Party of Vietnam (CPV); (ii) contribute to the enhancement of patriotism and proletarian internationalism; (iii) criticise reactionary and erroneous views; and (iv) develop cultural and scientific relations with other countries. The first two objectives implied the realization of the CPV that the abstract socialist principles cannot be simply be adopted to the concrete conditions of Vietnam, and the social scientists have important role in resolving the impasse. This also provided the ground for Vietnamization of social sciences and increased the autonomy of the academics. The third objective reflected a continuation of the party's ideological commitment. As early as in 1943, the Indo-Chinese communist party in its outline of the Vietnamese cultural revolution had advocated decisive struggle against Confucianism, the doctrines of Mencius, Descartes, Bergson, Kant, Neitzsche, *et. al.* The situation in 1965 warranted inclusion of a few more bourgeois ideologues into the list. The final objective, for the first time, explicitly furnished the means of freedom of the interaction of Vietnamese social scientists with their colleagues elsewhere.

Be that alone, the VCSS has now as many as fifteen institutes, one research centre at Ho Chi Minh City, and five departments. The institutes are on literature, philosophy, linguistics, history, ethnography, folklore, Vietnamese economics, world economics, archaeology, information, sociology, law, *Han* and *Nom* (the Chinese and Viet script), South East Asia studies, and Asia and Pacific. The departments are for international cooperation, planning, personnel, administration, and the editing of journals Political science and anthropology have no status in the VCSS. Evidently

there is close interaction between the institute, but each one is more or less autonomous and function independently within the framework of VCSS. The members have the right to interact with foreign collegues and the published material can be despatched to any country without any censorship. The institutes are flexible enough in structure to adopt to changes. Principle of democratic centralism is effectively applied. Generally a scholar or a group of scholars define a problem and undertake primary research and the draft manuscript is discussed in the faculty. Discussions lead to rewriting until it is found worth for publication.

The VCSS is now chaired by Prof. Dao Van Tap, an eminent agricultural economist, Prof. Pham Huy Thong and Prof. Vu Khieu, Directors of the Institutes for archaeology and Sociology, respectively are concurrently the Vice-Chairmen of the VCSS. They are more than confident that Vietnam can merge its unique national values with proletarian values. Anyway, first a brief outline of the entire committee is in order. The four largest mistitutes are for economics, history, archaeology, and linguistics with an average of 150 scholars. The Institute of Economics Works closely with the State Planning Commission and helps in preparing plan proposals to the Party and National Assembly. It has carried out several regional and national socio-economic surveys and indulged in economic predictions. The Institute of World Economics is however a recent one.

Archaeology is a popular subject even at the commune—administrative unit between villages and district-level. The Institute of Archaeology has so far concentrated on stone age, metal age, feudal period and archaeology of ethnic minorities. With regard to the Stone Age, besides the lithic tools, geological and paleontological evidence is gathered to ascertain the living environment and culture of the period. Son Vi culture has been recognized as belonging to later paleolithic period. Several sites of this culture have been excavated. Traces of rice cultivation and pottery of Hoa Binh culture are investigated in a few places. Neolithic cultures are found to be more wise-spread. But in this evolutionary sequence, there is a reasonable dispute whether all branches hailed from the commen stock. Rather than looking for more sites, intensive studies are made on the Bronze Age and Iron Age. The huge bronze drums of the Dong Son culture are thoroughly analysed. The excavated tombs, statues and pottery in different provinces have generated debates on whether thousand years of the Northern domination was the lost of Dong Son epoch or the first phase of Dai Viet era. The fact that the Dong Son bronze civilization flourished in Vietnam much before the arrival of Han Chinese civilization provides the clue to why the region was never completely assimilated by the Middle Kingdom. In the tenth century A.D., the Chinese were driven away and the ancient myths of the golden age received new legitimization. To put it differently, the Dong Son culture continued during the Chinese colonial millenium.

The feudal relics like statues, bells, palaces, castles, pagodas, temples, *stupas*, communal houses etc., especially from Le to Nguyen dynasties are studied in order to preserve and interpret the history. In recent years there

is an emphasis on the excavation and study of civilizations of the non-viet societies. The Muong, Cham, hai, and other minorities tombs, ceramics, tools and weapons are studied to determine cultural intercourse, trade, political influence and natural development of the society. The towers, architectural structure, brick baking and moreover the influence of Cham Pa civilization on the regional culture are being studied carefully. UNESCO and Poland have provided assistance in this case. But there is still more to be done.

In short, the major objectives of the Institute of archaeology appears to us are to find an indigenous cultural development in a more or less evolutionary sequence, where the outside cultures, including that of the Chinese, played, if at all, only a marginal role. The focus on minorities is again geared to find the interlinkages between the viet and non-viet cultures to establish unity in the society. May be there are additional interests but the primary ones are to unite the peoples of Vietnam and raise their historical pride.

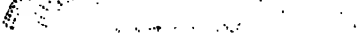
The Institutes of history, ethnography and folklore play a more or less similar role. Over 200 hundred researchers in the Institute of History cover subjects like the Origin of Vietnamese people, formation of State and Vietnamese Nation, development of socio-economic forms, Vietnamese culture, agrarian history and peasant movements, struggles against foreign aggression, working class and history of Vietnamese revolution. In recent years studies on regional and Southeast Asian history have also begun. The common view that the Vietnam's population had grown as a result of waves of immigration from South China (Aurousseau, 1923) or Malay (Tan, 1959) has been disproved. And it is now increasingly argued that the Viet population originated from among the indigenous ethnic minorities like the Muong (Tuyen, 1963). But more solid researches are necessary to establish this. The famous Dong Son culture which was long thought to have been introduced from outside is now considered being grown gradually with the development of water conservation, wet rice cultivation, metal work, internal differentiation and defence against foreign invasion. Archaeological researches pertaining to socio-economic structures, date of appearance of State and system of writing are still continuing. But largely the Vietnamese historians hold that during the first millennium B.C. the first state in Vietnamese history was formed. Most authors hold that the Vietnamese nation emerged as a precapitalist nation sometime between 11th and 14th century (Hodgkin, 1981), but a minority trace it to the August Revolution of 1945 (Chesneau, 1955). Since 1960, there has been a highly interesting debate on the development of socio-economic forms in the country. The most controversial subjects are, existence of a regime of slavery feudal system, and Asiatic mode of production in the history of Vietnam (Le, 1983 : 103). The studies on cultural history including art, literature, tradition, religion, classical opera, puppetry, folksongs, and traditional medicine are fast growing. Similarly works on cultural relations between the minorities and the Viet and with the Southeast Asia, China, and India are continuing. Studies are also conducted on the evolution of the forms of landownership, peasant

movements, specially those culminated in the Tay Son movement in the late eighteenth century, and the history of traditional villages. There are over 600 articles and 30 books (by 1980) on the people's struggle against foreign aggression in the Vietnamese history. Traditional military art too received due emphasis. A few studies pertain to the formation, development and special feature of the working class and its role in anti-American war and socialist transformation. The history of the CPV and the peoples armed forces are analysed. Local level or regional histories have received enough impetus. Only recently, the history of Southeast Asian Countries are being studied.

The subjects covered and emphasized in the historical research demonstrate that the objective is to make use of the historical material in the present task of nation building and reconstruction of Society. The strong position of the history institute come from the traditional Vietnamese preoccupation with the past. Indeed, a large number of top leaders in the CPV have been personally involved in historical research, teaching, writing and editing. Special mention may be made of Ho Chi Minh, Vo Nguyen Giap, Truong Chinh, Tran Huy Lieu, Van Tao *et. al.*

The CPV's cultural line has provided a framework for the study of various aspects of the Vietnamese folklore in a systematic way (Nhat, 1978 : 64-77). Folk tales, legends, songs, proverbs, riddle poems, tunes and music, popular theatre and art, dances, castumes, puppet shows, engraving, wood-cuts, rupestral sculptures and sketches are analysed with a view to raise national conciousness and to comprehended the social struggles, aesthetic and moral conceptions of the toiling people, influence of religion on the prevailing ideology, heroic traditions in production, beliefs, habits and customs of people. These are preserved and used to synthesize the national with regional character, consolidate the nation building process and provide an integral ideological basis for socialist culture. The folklore of the minorities specially the Muong, Thai, Tay, Meo and Nung are analysed in terms of evolution of their societies and cultures and the relations of solidarity with the Viet culture and society. In short, there is a dual interconnected objective of cultural integration and development of socialist culture. But the impression one gathers from talking with the institute's colleagues is that there is more of a descriptive collection of material than high level analysis.

Vietnam has always been a multi-ethnic nation. Ethnologists have counted 54 ethnic groups (*dan too*). Several studies have pointed out rich cultural patrimony of ethnic minorities in the development of Vietnamese culture (Hoc, 1978). The Institute of Ethnography (1968) has several sections, namely on Viets, Northern ethnic minorities, Tay Nguyen minorities, ethnosociology, cartography, and foreign ethnology. The last one is confined to the Indochinese, Thai and South China only. Like most institutes, this one also has its own library, journal, and museum. Though it is expected that the institute concentrate on the ethnic minorities, the study of the Viet ethnography is significant. Researches are undertaken to unravel the process of formation and development of the ethnic minorities according to historical



and comparative method, and thereby, establish that despite great differences in their ways of life, levels of social development, and cultural peculiarities, the majority and minority peoples are firmly bound by historical ties. Besides proving the existence of all Vietnamese cultural commonality within the frame of an age old culture, common to all ethnic groups in Southeast Asia, these is a deliberate stress on exploring their tradition of resistance against foreign aggression and feudal oppression.

Ethnographers have also directly contributed to the formulation and changes in the ethnic and cultural policy of the State. The five autonomas zones in the North are now removed. By 1960, vestiges of feudalism were rooted, act, thanks to the democratic reform movement and formation of agricultural cooperatives. All along concerted attempt is made to piously preserve the essential democratic elements of minority culture and language in a spirit of historical continuity, but simultaneously, through persuassion and education certain harmful tradition and customs like inter-tribal conflicts. authority of age and lineage headmen, restriction on widow remarriage, superstitions on diseases etc. are voluntarily regressed. Intermarriages have been encouraged. There is both ethnic and Vietnamese consciousness among the minorities. Though same problems linger on, there is little doubt that the Vietnamese ethnic policy has successfully resolved much of the serious problems, faced now by many multiethnic. Third World Countries. True the Vietnamese ethnographers have reasons to be proud of their contribution. but in terms of theoretical and methodological development, they have not yet made very significant contribution. This is admitted by them, and in the coming years, the focus would be more on the fundamental theoretical problems in ethnography.

The Institute of Sociology (1976) is of more than a passing interest, for unlike in many socialist countries, it occupies a prestigeous place in the VCSS, and its Director, Prof. Vu Khieu, is one of the Vice-Chairman of the Committee. There are 70 scholars in the Institute and another 15 are in the Sociology Department at the Centre for Social Research in Ho Chi Minh City. Prof. Khieu was founder of the Institute of Philosophy and was responsible for organizing the Ho Chi Minh City centre. He argued that there is a close association between philosophy and sociology, one with abstract models and the other with concrete issues. The underdevelopment of sociology in USSR is attributed in terms of the dogmatic role played by Stalin, but it is flourishting in Bulgaria, Poland and Hungary. The Institute's rural sociology section covers the agrarian history and development of collectivization. Urban sociology is however less developed. Family sociology includes status of women and changes in family structure. Under the rubric of social demography, a host of subjects like way of life, culture and social structure, management administration, art and methodology are included. Interestingly the works of Comete, Weber, Durkheim, Parsons, Merton and Levi-Strauss are used quite commonly in teaching and research activities of the Institute.

Much of my time was spent in the amiable company of the scholars from the Institute for Southeast Asian Studies. This Institute was established in

1973 with the objective that as there is a close historical and cultural relation between Vietnam and the Southeast Asia, the research of the Institute would help Vietnam social sciences with bases for comparison and exploration of the laws of cultural and social development. It will also contribute to the development of friendship among nations of the region, against all splitting schemes of the imperialists and international reactionaries, First priority of the Institute is given to research on Kampuchea, Laos, and Thailand.. History, literature, culture, politics, economics and social system of the three neighbouring countries are studied by the fifty cadres of the Institute. The general argument is that the Southeast Asia has been an important world centre of cultural growth from the Bronze-Age forward, characterized by a specific wet rice mode of production. Indian culture, through Buddhism and trade provided the much needed ideological homogenity for the formation of major states and nationalities in the region. The Chinese civilization, on the other hand was very aggressive and hence there were struggles against expansionism and begemonism of Chinese feudalists (This observation is an overstatement but used freely for political ends). All the countries of the region shared problems of colonial and neo-colonial exploitation, and the experience of three Indo-chinese countries has proved that socialism can be realized without passing through a capitalist phase. The Institute is also credited with studies on interactions between minorities and majorities, on contribution of Thai's in wet rice cultivation, and on the relationship between language and culture. It has close scientific cooperation with socialist countries and Southeast Asian centres all over the world.

The Centre for Social Science Research (1975) at Ho Chi Minh city is treated as an institute of the VCSS, and is headed by a prominent historian, Prof. Nguyen Cong Binh. There are over 200 scholars working in the eight departments of the centre. The departments are for sociology, ethnology, archaeology, history, philosophy, economics, literature and linguistics. Before liberation, there was only archaeology department. The Centre's research focus is concentrated on the study of culture and youth in Ho Chi Minh city, socio-economic problems of the nine provinces in Mekong delta, and the economic structure and culture of ethnic minorities in Tay Nguyen Plateau. In addition, several studies are made on cottage industry, new economic zones, agricultural improvement, forest development and formation of scripts for minorities. The interviewed scholars here appeared in a mood of intellectual excitement and are more open and critical than their colleagues at Hanoi.

The Institute of Information on Social Sciences (1975) runs the social sciences library, exchanges material with foreign countries and organizes scientific information within the country. It also conducts researches in the library sciences and communication theory and practice. Most books are in Russian followed by Viet, French, English and Chinese in that order. On an average 100 readers visit the library daily. The Institute has received some financial support from the UNESCO, but financial problem is still obvious from the limited subscription to overseas journals. The CPV leadership is

aware of it but the limited foreign currency at hand prohibit a larger grant to the Institute.

The Institute of Philosophy is concerned with the application of Marxist-Leninist Principles to Problems of human existence in general and contemporary Vietnamese life in particular. It is deeply involved in the issue of transition from small scale economy to socialism. The Institute of Han-Nom is engaged in collection, textual analysis, codification, translation of significant historical documents in Chinese and democratic characters. The Institute of Law has prepared the draft of the new Constitution adopted in 1982. The Institute of Literature attaches special significance to peasant popular literature and the Vietnamese character, revolutionary literature, normalisation of the Vietnamese language, and history of Russian and Western literature. The Chief aim is to exploit the literacy and artistic legacies that help promoting the ideological and cultural-revolution and building of socialist culture specifically for Vietnam. The Institute of Linguistics is best known for its efforts in the area of word coinage. Alongwith some Soviet Scholars, an investigation on the structure of minority languages was carried out recently.

Though the VCSS is the apex organization of social research in Vietnam, researches are also carried out in the universities, teachers training schools, provincial and district historical committees and cultural bureaus. the CPV, the armed forces, museums, and even in some cooperatives. Vietnam has four universities at Hanoi, Ho chi minh city, Dalat and Hue. Following new rules on university degree and scientific functions to foster a contingent of researchers of high standard promulgated by the government in 1976. Post Graduation and Doctor of Science degrees have been introduced into the Universities. The University of Hanoi, for instance, has 13 P.G. departments including the departments of philosophy, literature, geography, history and political economy. Of the 800 faculty members in the University of Hanoi, nearly 10% are Professors and Doctors of Science. It may be mentioned that since 1980, the titles of Professor and Associate Professor are being conferred on scientific workers credited with valuable work and experience. Academician title, however, remains, the highest honour. Annually Hanoi University recruits between 400 to 600 students with full scholarship. Every student has to opt for either English, Russian or French in addition to the study of Nom—the Vietnamese demotic script based on Chinese ideographs—and Han, the classical Chinese. The Marxist philosophy, political economy, and research methods are compulsory subjects to all social sciences. The other content courses though include subject specific topics, there is quite a few topics from other disciplines. For instance, the history content courses include related topics from archaeology, ethnology, psychology, sociology, logic, museology, librarianship and archieve keeping. The fieldwork of four weeks each year and twelve weeks in the last year of graduation is significant. The faculty undertakes studies but they rightly complain that the VCSS is too self-contained and pampered. Universities are most concerned with teaching

while research is principally carried out in the Institutes as is in USSR and France. There is an unfortunate trend of research and teaching becoming further and further apart, although scholars from both insist the need for closer relations between teaching and research.

The faculty of the teachers training colleges in Hanoi, Viet Bac, Vinh, Da Nang, Qui Nhon, Ho Chi Minh city, Can Tho, Da Lat, and Buon Me Thuot also carry out some research. The Committee for research on party history and research groups on the military history, museums of history and culture indulge in some specific areas of research. The most significant is however the historical and cultural researches at provincial, district and even some cooperative levels by the common people themselves with or without guidance.

The Salient Features

We may profitably note here certain conspicuous features of the Vietnamese social science research. The emphasis on social and cultural history cuts across all social disciplines. Hao has rightly remarked: "To recall the old so as to better know the new and to base oneself on the new in order to understand the old, is the principle guiding all social sciences" in Vietnam (1972 : 24). This dialectics is not restricted to historical materialism but integrally covers culture, ideology, literature and consciousness. The interdisciplinary orientation is another noteworthy feature of all social science research. Every institute has scholars from other subjects and there is hardly any research which does not take the help of scholars from sister disciplines. The course contents are also multidisciplinary. It is worth to mention here that unlike most countries, social sciences here include humanities. The explanation for this is that social sciences bear characters of humanism and of course, humanity has always been their object of research and services. Hence it would be wrong to separate the two. The "laws discovered and summed up by social sciences must eventually be returned to cater for the society and people with a view to contributing to comprehensive development of the country and helping the people bring into full play their right to collective mastery, including the mastery of nature, the society and themselves" (*Social Sciences*, 1984- : 7). In addition the system of education and research is very much diversified and extended. The untrained scholars at the district and province level carry out research on regional history, culture and economics and debate on the problems of transition to socialism and cultural integration. The workers and peasants graduate from vocational schools and universities in large numbers and generate a wealth of research material through field studies and experience. Every year 200,000 workers graduate from 250 professional schools while only 150,000 fresh students graduate from high schools and vocational training centres (Vietnam Economic Association, 1983 : 19,65). This has reduced the wide traditional gap between the intellectual and masses, produced much of the research at local levels, and contributed to the development of national and socialist

consciousness of the people.

Patriotism is still given top priority in social science researches. Many scholars in the VCSS have explicitly stated that Vietnam at its present stage of development need a unifying strategy of socialism and patriotism. The formula is: "the love of the homeland and the love of socialism are one" (Vien, 1983 : 10). In education, it is argued that "during the traditional period, education of communist ideology should be coupled with education of national consciousness in the spirit of genuine patriotism, for the coordination of these two aspects will create socialist patriotism, as patriotism and the love of socialism are one" (Toan, 1984 : 45). Prof. Le Thai of the Institute of Philosophy stated that " *though it bears international nature socialism is national* phenomenon and a concrete historical phenomenon" (1984: 50-51). In fact, in every sphere there is an emphasis on raising national consciousness. Ho Chi Minh's statement of "going to school is patriotic" is being repeated alloer. Wall writings say: "To be hygenic is to love your country". The Cinema, opera, and every conceivable area of mass participation begin with a dual message of nationalism and proletarianism. Even the tomb of Ho Chi Minh with the embalanced corpse and rigid military sentries is designed as a unifying symbol. This orientation, more than anything else, has helped the process of Vietnamization of social sciences.

Lastly some observations on the question of academic freedom. It is presumed that in socialist countries, criticism of the state and leadership is sparse and the scholars are tamed. This is certainly an exaggeration in case of Vietnam. It is true that there is close relationship between the government and the research bodies. The VCSS reports to the office of the Prime-Minister universities are responsible to the Ministry of Higher Educations and nuseums work under the Ministry of culture. The scholars are urged to devote their disciplinary skills and experience at the service of the state. The programme of research in different institutes and departments of the VCSS are tuned to the CPV directives. For instance, the Fifth National congress of the CPV advocated the necessity of strengthening the theoretical work and quality of social science research. It suggested that the social science researches "must be focussed on the theoretical and practical matters relating to socialist construction, the international communist and workers' movement, and national liberation movement, thus contributing to the growth of socialist community and the three revolutionary currents and to struggle against Maoism, opportunism, bourgeois ideology and other reactionary thoughts" CPV, 1982). Following this broad outline, the VCSS charted out its programme for the 1980s. Its focus is now directed to (i) theoretical and practical questions of the transitional period and its initial stages, including the economic and ideological contents of these stages with specific reference to Vietnam; (ii) history of Vietnam's culture and civilization: (iii) international situation and the foreign policy of the CPV; (iv) struggle in ideological field; and, (v) basic socio-economic predictions for the year 2000 in five major regions namely Tay Nguyen, Mukong and Red river deltas and Hanoi and Hochi Minh Cities. Nonetheless the CPV's

directives originated in the VCSS itself. The scholars are however allowed to undertake researches in other areas of interest. Of course, such topics do not enjoy priority. Besides, researches in the priority areas do not necessarily produce similar observations in confirmation with the CPV policy. One has only to read the serious debates on Asiatic mode of production, feadalism, indigenous development of Vietnamese culture, changes in agricultural cooperatives, reasons for the failure of the Second Five Year Plan (1976-80), subcontracting of agricultural processes to individual peasants in order to raise productivity, relative emphasis on industrial and agricultural development, question of entering into a range of contractual relationships with the West, minority autonomous zones, new economic zones in the South, private small trade, wage structure, employment policy and economic management, to name only a few topics. Of course some areas are out of public debate or research. In private, they do oppose the blanket condemnation of Vietnamese Trotskyism, involvement in Kampuchea, Criticism of China, and there is an undercurrent of disenchantment of government justification of every action and word of USSR, although the help of USSR and Eastern Bloc is gratefully acknowledged. Informal talks with scores of scholars over endless cups of instant tea convinced me that the Vietnamese colleagues are less dogmatic and very open minded, ready to solicit critical appraisal of their work by outside colleagues and tolerate harsh comments on the problems of economic management in Vietnam. But as they told me afterwards that they were expressing freely their views so freely as I am Indian and they would have certainly been reluctant to accept the similar comments from other nonsocialist countries (Thanks to Indian) diplomacy!) Nonetheless, one reminds of the bold letters at Ho Chi Minh tomb proclaiming: "There is nothing more precious than Independence and Freedom."

That from almost nothing, the social science research in vietnam has become an intellectual force to reckon with is worthy of attention. But there are quite a few problems, mentioned earlier. The library resources are underdeveloped for want of finance. Although ten out of the 15 Institutes have their own journals and the VCSS publishes a quarterly in English, French and Russian, the foreign journals are too few and for between. The public burning of books and documents in April 1975 in the South Vietnam has deprived much of precious material. The state support for research is also inadequate, but under the given constraints of foreign currency, the VCSS cannot expect to complete with the international standard on library, instruments and finance. There is more empirical and applied, research than theoretical work. And that the danger of ossification has set in due to the growing division between the functions of the VCSS and the universities. Though UNESCO and socialist countries have rended some help, there is much more scope to promote understanding and cooperation with the international fraternity to the mutual advantage.

Nevertheless, the rapid pace of Vietnamization of social sciences, the non-dogmatic adoption of Marxist principles of socialism with appropriate

stress in nationalism, culture and consciousness, emphasis on social history and experience of the social science scholarship to the grass root level offers a package worth pondering in the social science circles in most countries of the Third world.

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The Foreign Student Dilemma

PHILIP G. ALTBACH

Universities are international institutions. Knowledge has no boundaries and universities have traditionally welcomed individuals from many nations to study and teach. Indeed, the origins of the universities were international. The early European universities used an international language, Latin, and from the first had an international student body. Academic institutions continue to be international—and one of the aspects of internationalism, foreign students, has become an issue of importance and considerable controversy in the modern world. Foreign students constitute an important element of the world higher education equation. It has been estimated that there are more than one million students studying outside the borders of the home countries, with 325,000 studying in the United States, 114,000 in France, and 62,000 in the Soviet Union, the top three "receiving" nations. The bulk of the world's foreign students come from the developing countries of the Third World and they study in the industrialized nations of the 'North.'

The impact of foreign students is significant. It has been estimated that more than $2.5 billion is devoted to the education of foreign students in the United States and over ten percent of total university enrollments in France is foreign. In the United States, graduate study has been especially affected by foreign students, with half of graduate enrollments in fields like engineering and computer science made up of foreign students. Debates concerning appropriate policies regarding foreign study, the economic impact of foreign students, curricular aspects, ideological ramifications and other aspects have been increasingly common in many countries.[1]

This essay places the multifaceted policy, curricular, and economic of foreign students in a broad comparative context.[2] It is my conviction that

the foreign student issue has been neglected, that it has broad ramifications for higher education, and that it is in many ways symptomatic of international relationships in higher education—relationships that are based on deep seated inequalities and that are affected not only by educational factors but by economic and political considerations that transcend higher education. Not only are foreign students a significant educational variable, but they reflect basic issues in higher education. Those involved with policy making on both sides of the equation—the 'sending' countries and the 'host' nations—must fully understand the complexities of the situation. Too often, decisions regarding foreign students and international study have been made by default, by the 'market forces' of Third World students eager for higher education overseas, by political leaders concerned with maintaining national influence through educational diplomacy, or by academic institutions in the industrialized nations wishing to fill their classrooms with students, regardless of the relevance of the academic programs being offered.[3]

The World Balance of Students

The flow of students across international borders is a complex matter. It is often assumed that the flow is exclusively from the Third World to the western industrialized nations. The bulk of foreign students do flow in this direction.[4] However, significant numbers of students go from one Third World nation to another to study. For example, Lebanon (even under current conditions), India, Argentina and the Philippines are among the top 20 "host" countries. Thousands of European students come to the United States and Canada to study and many North Americans study in Europe. Thousands of American medical students studying in Mexico, the Caribbean and other parts of the world contribute to the flow of foreign students. The European Community has simplified procedures for Western European students to study in the countries of the Community, although there has been some concern that the numbers of students crossing European borders to study has not been increasing. There is also a significant flow to the East European socialist nations as well, both from the Third World and within the region. The Soviet Union, with 63,000 foreign students, is the third largest recipient of foreign students.[5]

Most of the contemporary discussions concerning foreign student policy, adaptation problems, curricular relevance and other issues relate to the flow of Third World students to the industrialized nations. Yet, even here the balance sheet is complex. India, often seen as a major exporter of students in fact has an almost balanced flow of students—India sends 15,000 abroad but takes in 11,000 overseas students. Similarly, the Philippines takes in almost as many students as it sends abroad. In both of these cases, the bulk of overseas students coming to study are from other Third World nations, while most of those who go abroad study in the industrialized nations.

Thus, within the broad flow of students from the Third World to the Western industrialized nations, there are smaller but nonetheless important

tributaries among the less industrialized nations, between the Western nations and to the Socialist nations of Eastern Europe. The impact of foreign study varies considerably from country to country.[6] More than 10 per cent of students in France are foreign students, while in the United States, despite playing host to triple the number of students, foreign students constitute only 2.4 per cent of the total. In Britain, where there has been debate concerning policies relating to foreign students and to the relative costs and benefits of hosting such students, about 7 per cent of the total enrollments are from overseas.[7] The Soviet Union has about 1 per cent of its student population from overseas.

For a number of sending countries, overseas study constitutes an even more important issue. The pressures for admission to post-secondary study are immense, and one of the way that Third World nations have dealt with the pressure is by sending students abroad. Further, academic programs and specialties are frequently unavailable in newly established Third World universities, forcing student abroad to study these subjects. The pressure can be exemplified by the fact that when Thailand opened its first "open university," which has no enrollment restrictions, 560,000 undergraduate matriculated in its seven faculties. In Malaysia, as in a number of Third World nations, there are more students studying outside the country than inside. 28,000 Malaysian students are accommodated in the country's universities, while 35,000 are seeking degrees abroad. Although scholarship holders constitute only a small fraction (8,700 of 35,000) of the total studying overseas, the Malaysian government allocated $400 million for overseas study—out of a total education budget of $1.8 billion[8]. Thus, foreign study is seen as an outlet pent up educational demand that cannot be met by existing educational facilities and as a means of obtaining advanced technological and other skills that are unavailable at home institutions..

It is difficult to predict future student flows. Many factors impinge on the scope of educational exchanges—fiscal, political and curricular. As Third World nations build up their own higher education systems, patterns of overseas study may change. Total numbers may decline and the flow of undergraduate students will significantly diminish. The mix of students in terms of subject specializations may alter significantly, depending on the needs of Third World nations and on perceptions of the job market. Some have argued that the boom in foreign students may be coming to an end, or at least slowing down because of enhanced capacity for higher education in many Third World nations and for economic factors as well.[9]

Political factors have directly affected not only the numbers of foreign students from a country, but also the direction of the flow. For example, Iran was at one time the world's largest 'exporter' of students. After the downfall of the Shah, the numbers of Iranian students abroad declined, and many of those still abroad became refugees. When Ethiopia shifted political allegiances from West to East, the numbers of Ethiopian students studying in the United States fell and new programs tended to send students to the Soviet Union and other socialist bloc nations. Similar trends can be

seen, more recently, for Nicaragua. Shifts in government policy and priorities an affect student flows. More than a decade ago, the Indian government moved to reduce the flow of students abroad by curtailing government scholarship programs, making it more difficult to obtain a passport for study abroad, and by limiting the amount of foreign exchange available for study. Indian authorities also restricted the number of fields which could be studied abroad, arguing that many specialties are available within India.

The trend toward foreign study by students in the Western industrialized nations has declined somewhat in recent years, probably reflecting increased competition for remunerative jobs and a desire to ensure good employment prospects. Study abroad has been seen by Western students as a luxury. It is also significant that very few Western students go to Third World to study. The flow is generally to other industrialized nations. For example, it is estimated that only 5 per cent of the 20,000 American students who study abroad go to the Third World.

Table 1

INTERNATIONAL STUDENT FLOWS: MAJOR INDICATORS

(a) The Top 20 of the World's Leading Hosts of International (1980/81)

Country	*Total Number of students*
U.S.A.	325 628
France	114 181
U.S.S.R.*	62 942
Germany Federal Republic	61 841
United Kingdom	56 003
Canada	32 303
Italy	27 784
Lebanon	26 343
Egypt	21 751
Australia	17 694
Switzerland	15 515
Austria	12 885
Belgium	12 875
United Kingdom	15 776
India*	11 761
Spain	10 997
Holy See	9 104
Argentina**	8 649
Greece***	8 304
Philippines	7 901

(b) The Top 20 of the World's Leading Senders of International Students (1980/81)

Country of origin	*Total number of students*
Iran	65 521
Malaysia	35 693
Greece	31 509
China	30 127
Nigeria	26 863
Morocco	20 876
Hong Kong	20 625
U.S.A.	19 843
Japan	18 066
Venezuela	17 755
Canada	17 714
Jordan	17 030
Saudi Arabia	14 298
Germany, Federal Republic	16 983
Palestine (Refugees)	15 414
Lebanon	15 117
India	15 238
Turkey	14 606
Italy	13 848
Syria	13 701

Source: *Unesco Statistical Yearbook* 1983
*1978 **1976 ***1979

The world balance of students in terms of flows and directions is complex and difficult to accurately portray or predict. Several generalizations are possible: the basic flow is from the South to the North and is likely to remain that way; the trend toward more sophisticated choice of countries, institutions and subject fields by Third World students is evident and the trend toward a higher proportion of graduate students is likely to continue; political and economic factors can have a very significant effect on numbers and directions of student flows; in the industrialized nations, changing perceptions of the employment market. curricular preferences and other factors can have an impact on the flow and direction of foreign study; and finally that the magnitude of foreign study despite changes in direction orientation and conditions, is likely to remain large for the foreseeable future. Whether the growth rates of the past two decades are maintained is open to question, but the patterns now established are likely to continue.

The Foreign Student Infrastructure

Foreign study has become big business for many countries. Governments have hired specialists to help handle large numbers of foreign students. Academic institutions have built up offices to assist in placement, advisement and services to foreign students. In some countries, private entrepreneurs have been active in recruiting and placing students in overseas institutions. And in at least one case, a university has been established to serve a foreign student clientele—the University of East Asia in Macau, the small Portugese colony near Hong Kong. Overseas Chinese business interests have recently approached Australia with the idea of building a university to serve the growing numbers of Southeast Asian students wishing to study in Australia. The development of a 'foreign student infrastructure' is perhaps an inevitable result of the growth in numbers of foreign students, but it also creates a built-in pressure to maintain and even expand overseas study.

The major industrialized nations have built up service organizations relating to foreign students. In the United States, the National Association for Foreign Student Affairs has a membership of more than 5,000 and not only publishes materials relating to overseas students but also acts as a lobbying group for its members and for international education generally. The Institute of International Education, headquarters in New York, is a placement agency for foreign students and frequently represents overseas governments and other agencies in placing students in American academic institutions. It also provides statistical and other services relating to international education. In Britain, the United Kingdom Council on Overseas Student Affairs (UKCOSA) serves a similar function. Agencies also exist in Japan, the German Federal Republic and other countries. In the Soviet Union, one of the departments of the Research Institute on Higher Education is responsible for research on foreign students studying in the USSR.

Third World governments have set up agencies to serve, and frequently also to watch their foreign students studying overseas. For example, tiny

Kuwait has a full-time office which is part of the Kuwait Embassy in Washington which has responsibility for Kuwaiti students in the United States, most of whom are funded by the Kuwait government. Singapore, Malaysia, Nigeria. Saudi Arabia and numerous other countries maintain similar offices. Each of these countries has an impressive infrastructure at home to handle their overseas students. The Government of Malaysia, for example, awards several thousands government scholarships each year and has an agency to monitor student progress. A few countries have bcome notorious for spying on their overseas students and trying to ensure their political loyalty.

Many other organizations also assist international education in a variety of ways. Unesco has for many years collected statistics on educational trends, including on study abroad, and it has encouraged a wide range of international activities in education. More recently, the European Community has placed considerable stress on facilitating study in universities in any of the Common Market nations. For example, students who wish to study outside their home country pay their domestic tuition fees when matriculating in any Common Market nation. They are also places guaranteed for European Community students.[10] The Council of Europe and the Council for Mutual Economic Assistance (COMECON) have also sought to promote international study opportunities in their regions. Agencies such as the Council for International Exchange of Scholars (Fulbright Commission) in the United States, the Commonwealth Secretariat in Britain, the Deutsche Akademisches Austauchdienst (DAAD) in the German Federal Republic and similar agencies in many nations assist foreign study and international exchange as well.

Along with these organisational structures, a cadre of professionals has emerged that deals with foreign students in many nations. It can be estimated that perhaps 15,000 people worldwide have careers that are dependent on foreign students and international study. Some serve as administrators of foreign study programs, some as advisors to foreign students, some as government officials supervising funding agencies for overseas study and a few as policy makers. In a few countries, most notably the United States, it is possible to obtain an academic credential in student personnel work and in a few universities to focus specifically on foreign student affairs.[11] Those responsible for admission of foreign students have been assisted by the American Association of Collegiate Registrars and Admissions Officers (AACRAO), which has published guidelines for degree equivalences. Unesco has also been concerned with the transferability of academic credentials from one nation to another.[12]

The development of a nexus of organizations concerned with foreign study and international education and the emergence of a professional cadre of people whose careers are dependent on foreign study is a reflection of the growth of the field in recent years. This cadre also constitutes a kind of pressure group for continued growth and they keep officials and academic attention focused on the benefits of international educational exchanges of

all kinds. In short, foreign study has become "institutionalized' in a sense, and this provides benefits in terms of efficient administration and more thoughtful programs. At the same time, a self-interested professional cadre has emerged which has its own concerns and orientations. The infrastructure of organizations, individuals, publications and networks proves that foreign study and international educational have become an area of worldwide interest.

Curricular Factors and Foreign Study

The curriculum is often considered the "black box' of higher education. This is also true for the relationship between the curriculum and foreign students. Many curricular issues are important in this relationship: the impact and relevance of a Western' academic curriculum on Third World foreign students; the transferability of knowledge; the impact on Western institutions of large number of foreign students and others. It is generally the case that few curricular alterations have been made to accommodate foreign students in Western academic institutions and relatively little thought has been given to the impact of foreign students on Western academic institutions.[13] This section is intended to point to some of the important elements in thinking about this relationship, since the curriculum is at the heart of any academic experience or program.

There is no doubt that what foreign students learn in academic institutions in industrialized nations has an impact on them, on academic institutions in the Third World, and perhaps on broader economic and social developments as what is learned in universities is gradually translated into policy in the Third World. It is also the case that very efforts have been made .in the industrialized nations to tailor the educational experiences of foreign students to the perceived needs of their countries. In virtually all institutions catering to foreign students, including those in the Socialist countries, foreign students learn side by side their local compeers, with no accommodation of course, textbooks, or content to Third World situations.

When asked, foreign students sometimes question the relevance of some of the things they learn in Western academic institutions, but by and large they express satisfaction with their academic experiences.[14] Yet, there is evidence that the curriculum is not directly relevant to Third World needs. Orientations toward research and toward methodology naturally reflect the concerns of scholars and of research agencies in the industrialized nations. Equipment is frequently highly sophisticated and expensive. The examples used in experiments, in textbooks and in seminars reflect the realities of the industrialized nations. It is certainly the case that 'science' is universal and that basic laws govern reality in all parts of the world. Yet, in many fields, particularly those which apply knowledge to the problems of the 'real world' that the issues that are of concern to the Third World are frequently not those which relate to industrialized societies. Social problems, agricultural techniques, educational innovations and practices and many other factors

differ from society to society. Further, research strategies and methodologies that are common in the West may not be relevant in the Third World, or may not be practical given the funds and equipment available.[15] Not only the details of research and of the curriculum that are imbued in the Western academic experience are frequently transferred to the Third World but an orientation to higher education and the role of the university is transferred as well.[16] It is at least possible that more careful attention to the educational needs of Third World students might make the transition back to home countries easier and their orientation to knowledge and the curriculum more appropriate to Third World needs.

The issues are complex. Few would argue, for example, that foreign students should be segregated and taught a 'second class' curriculum in academic institutions in industrialized nations. Since foreign students are in any case in a small minority in most departments and disciplines, this would be impossible as well as inadvisable. In a few countries, most notably the Soviet Union and Czechoslovakia, special institutions have been set up primarily for foreign students, but even in these institutions the curriculum is virtually the same as in 'mainstream' universities in those countries.[17] Further, since Third World students come from many countries with widely varying situations, a common approach to Third World issues would not be relevant in any case.

The impact of foreign students on institutions of higher education in the industrialized nations is growing, particularly in selected fields, institutions and disciplines. It is important to note that foreign students are not randomly distributed throughout the academic systems of the industrialized nations, but tend to cluster in particular institutions and fields of study. In most Western nations, there are generally larger concentrations of foreign students at the larger and more central institutions, with particular institutions claiming a disproportionate share. For example, the London School of Economics in Britain, the University of New South Wales in Australia, the University of Southern California and a number of other institutions in the United States all have higher percentages of foreign students. These students tend to concentrate at the graduate level, and to choose in fields like engineering, computer science, management studies and several others. The situation has become particularly serious in the United States, where about half of the graduate students in engineering and in statistics are foreign students. The influence of these students on institutional culture and on other aspects of American higher education is significant. A current issue in the United States for example, is the problem of foreign teaching assistants on American undergraduate education. There have been complaints from American students concerning the facility in English, for example, of some foreign teaching assistants.[18] In cases where a majority of the students are from other countries, should the professors move to alter the curriculum to make it more relevant to an international student body? In general, no moves have been made in this direction, but the issues are currently under discussion in a number of countries.

There is no question but that the curriculum in universities throughout the world is largely a Western curriculum. This is not surprising since the universal academic model is Western and the industrialized nations have for many years dominated research and scientific development. The use of English (and to some extent French) as the dominant international scientific languages adds to this situation of inequality. Whether it is possible for alterations to be made in curricular orientations to meet the needs of students from the Third World is questionable in the broader sense.[19] But it would be practical to institute seminars for foreign students, summer workshops or other activities that would make their academic experiences link more closely with the problems of their own countries and perhaps make the process of re-entry easier when they do return home—and possibly even reduce the problem of non-return.

The Economics of Foreign Study

Without question, the economics of foreign study is the most controversial and one of the most complex aspects of the entire foreign student debate. There are increasing concerns by both 'host' and 'sending' nations concerning the costs and benefits of foreign study. Furthermore, the data is itself contradictory. Many analysts have argued that foreign students are in fact a benefit to the host nations even if their direct educational costs are subsidized because they bring money into the local economy.[20] Others, particularly legislators and those concerned with the direct cost of providing higher education, argue that foreign students are a fiscal drain and their numbers should be cut in order to save valuable funds. It is not surprising that policy makers in the 'sending' nations are also concerned about the economics of foreign study. The cost of sending students overseas for advanced study is high—whether the expense is borne by individuals or their families (as is the case for a majority of foreign students) or by governmental agencies for universities.[21] For several countries which send as many students outside the nation for study as are studying in local universities, the cost of foreign study programs can approach the funding for indigenous institutions. Several of the Gulf countries, Malaysia and a few others fall into this category.

It is possible in this context to provide only a general overview of the economic issues related to foreign study, and largely from an institutional and societal perspective rather than from the individual point of view. It is, nevertheless, useful to summarize some of the costs and benefits from both the 'sending' and 'host' country sides.[22]

Host Country Perspectives

There are many more factors entering into the foreign student equation than economic, and a simple analysis is necessarily incomplete. Factors such as priorities at individual academic institutions and by governments, historical precedents, foreign policy goals and the like are all part of the

nexus of decision making that goes into foreign student policy. Nevertheless, it is possible to look at some of the specific economic factors that affect the host nations. As Blaug points out, however, both the costs and benefits of foreign study are very difficult to calculate.[23] For the host countries, the variations between the marginal and the average costs must be determined. For example, cutbacks on enrollments do not necessarily involve savings for academic institutions since many costs, including those for academic staff, are fixed. The calculation of costs and savings is further bedevilled by the problem of determining teaching and research costs. Costs for advisement and services to foreign students are also difficult to determine, but for many institutions, these costs do exist.

The benefits of foreign students for 'host' institutions are easier to describe but nonetheless difficult to quantify. Foreign graduate students frequently provide research and sometimes teaching assistance at relatively low cost and are particularly valuable in fields like engineering and computer science, where local students are in short supply. Foreign students bring foreign exchange into a host country, and therefore help the local economy by using its services. It has been estimated that in New York State alone, foreign students generated $145 million in foreign exchange earnings in the form of living and other expenses in 1981-82,[24] A large population of foreign students may, in the long run, lead to an increase in orders for goods produced in the host country because of the ties established during their sojourn. A further benefit is, of course, the cross-cultural understanding and enlightenment that is gained both by the students and by people with whom they come into contact in the host country.[25] The economic benefits of these factors are difficult, perhaps impossible, to measure, but in at least one American state, Oregon, foreign students earn assistance by providing help to local schools and advising the local import-export business community.

Sending Country Perspectives

Just as the economic recession of the 1970s impelled host nations to subject previously unquestioned expenditures to cost-benefit calculations, the sending countries (most of which are in the Third .World and thus in even more serious economic circumstances than the host nations) have begun to undertake cost-benefit analysis of their foreign student programs. There are virtually no careful economic studies from the sending country perspectives.[26] As pointed out earlier, the funds expended are substantial—some $400 million annually for Malaysia alone. Discussions of whether these funds could better be spent at home developing indigenous institutions have begun. Further, questions have been raised relating to the 'negative' implications of foreign study, such as strong Western cultural influences on Third World students—or, as in the Malaysian case, similarly strong fundamentalist Islamic reactions against Westernization. Thus, discussions go beyond the economic costs and benefits, but it is important to consider economic factors in as 'pure' a form as possible.

Sending countries have begun to consider the marginal economic costs of foreign study—the increased cost of sending a study overseas over educating the student at home—assuming that relevant educational facilities are available at home. But the marginal cost calculation must include the cost of developing appropriate facilities at home if they do not exist, and in the case of medical or engineering faculties, such costs are very high, or of adding capacity to existing academic institutions, Further complications arise: for example, is the cost of adding a new faculty justified in terms of long-term demand or would it be more efficient to send students abroad in a field for which there is limited demand at home? The cost of non-returning students must be taken into account, since even where such students have been self-funded for their university study, their primary and secondary education at home has been, in general, publically funded. Non-return rates vary considerably, but for some countries are quite high. It is estimated, for example, that 86% of Taiwan students who went abroad for advanced study between 1950 and 1783 did not return.[27] Non-return rates for Korea, Hong Kong and several other countries are quite high, but most foreign students do return home. The drain on scarce foreign exchange earnings is an important cost of overseas study. And of course, it is necessary to measure the cost of educating university-level students abroad at very high per-student expenditures versus at-home resource allocation to other levels of the education system.[28]

There are also benefits from the viewpoint of the sending countries to foreign study. The benefits of new shills and knowledge gained as a result of foreign study is one of the key calculations. In many cases, the home country does not have the necessary facilities to train students at home, and foreign study has an obvious advantage. In a minority of cases, overseas study is funded not by the home country but by the host country or by a foreign agency. In such cases, the only cost is that relating to the appropriateness of training received. Opportunities for foreign study may also release political or educational pressures on the home country which might result in unrest or instability.

The economic costs and benefits of foreign study are very difficult to measure. This is true not only because the variables are numerous and complex, but because there has been very little research on the subject. Further, economic factors tend to be combined with social, pedagogical, political and other elements which make a 'pure' analysis difficult, if not impossible. Nevertheless, it is important to obtain as clear an understanding as possible of the economic costs and benefits, to all of those concerned, of foreign study in its many forms and from all of the relevant viewpoints. Expenditures are very considerable, and there must, in the end, be some kind of accountability for the costs incurred.

The Politics and Policy-Making of Foreign Study

Decisions concerning foreign study are undertaken for many reasons.

It is important to understand some of the factors that go into decision making, by governments, academic institutions and individuals. Although it has been argued that for many countries there are few basic policy decisions made concerning foreign study and the situation is left to a variety of ad hoc decisions at various levels, it is nonetheless important to understand the nexus of decisions and the means by which they are made.[29] Thus, we are concerned here with the various decisions and levels of policy that relate to foreign study.

At the top levels of governmental education policy, foreign study is a matter of major concern in Third World nations with educational needs that cannot be met at home or which face pressure for openings in the universities that cannot be met at home. Approaches vary considerably, and the same country may alter basic policies from time to time. For example, China first sent large numbers of students to the Soviet Union, then relied only on its own educational resources and, recently, has begun students overseas in large numbers, especially to Japan and the United States as well as to other Western nations. Political, economic and educational factors have all contributed to Chinese overseas student policy. For a time, China was attempting to modernize by simply copying Soviet models. China then turned inward in an effort to seek a new and revolutionary approach to industrialization. Later, after the Cultural Revolution was discredited, China has embarked on a major effort to modernize. frequently using technology and models from abroad, and there is a need for appropriately trained manpower. The Chinese example is one where overseas study was dictated by top governmental policy and where the scope for individual or institutional decision making regarding overseas, study was, until very recently, impossible.[30]

Another large Third World nation, India, also has seen several policy shifts with regard to foreign students. After Independence in 1947, India sent large numbers of students abroad with government scholarships and permitted many to study abroad with their own resources. Students were sent abroad to study fields in which the university system was weak, but self-sponsored students could study virtually any subject. This open policy proved expensive and it also resulted in a large number of non-returning students. Indian authorities then adopted a more restrictive policy, selected fields very carefully that are acceptable to study overseas and also placed limitations on the number of students who would study abroad with their own resources by limiting the foreign exchange that could be taken out of the country. As India's own educational capacity grew, it was felt that overseas study was not necessary since in many fields students could obtain training within the country. In the very recent period, restrictions have remained on government scholarships for overseas study and also on foreign exchange, but Indian students who can obtain scholarships from abroad can matriculate—and many of the most able graduates of Indian colleges (and particularly of the prestigious Institutes of Technology) go abroad for graduate study and frequently do not return.

A frequently cited historical example of the successful use of overseas study to achieve modernization is Japan, which had an active policy of sending students abroad in the late 19th and early 20th centuries to learn specific skills and return home to implement innovations. This policy was extremely successful in terms of contributing to Japan's modernization, although there were complaints about foreign influences at the time.[31] In the post-war period, large numbers of Japanese students have gone abroad but usually for advanced non-degree training, since degrees from foreign universities are not fully accepted in Japan. Government scholarships exist, particularly in fields in which the nation is concerned with international competition, such as computer technology and related areas. Many Japanese students go abroad with their own resources as well as in a wide range of fields. In recent years, Japan has also been concerned about increasing the number of foreign students and scholars from other countries studying in Japan. As Japan has become a major commercial and scientific power in its own right, it has become concerned with its "image" overseas and with providing assistance to developing nations in its area of direct concern, such as Southeast Asia. Japan is now spending significant amounts of money on internationalizing its own higher education system and hopes to more than double the number of foreign students in Japan in the coming decade.[32] Japan's concerns have been with maintaining its own knowledge base in fields that are considered important, using higher education as a means of providing assistance to other countries and increasing its own influence overseas through the use of foreign study and building up a network of Japan-trained graduates in Southeast Asia.

The Malaysian case has been mentioned earlier, since it has been very active in sending students abroad to study. Malaysian policy is interesting in that it reflects many of the variations, and the contradictions, of Third World overseas student policy. Malaysia has expanded its educational system rapidly in the past twenty years and has also enjoyed a high rate of economic growth. It has, in common with many Third World nations, expanded its university system as well, and many now argue that a disproportionate amount is expended on higher education.[33] Yet, the demand for higher education outstrips the availability of openings. Malaysia has an elaborate foreign scholarship program which had 12,800 students abroad in 1983. But a total of more than 35,000 Malaysians are studying abroad, a majority of them privately sponsored. The government provides scholarships mainly for Malay students and students from the large Chinese minority are generally on their own. Traditionally, Malaysia sent students to Britain, but when the British government increased overseas student fees significantly, the Malaysian government turned to the United States and Australia as the main destinations for their students: now there are 14,000 Malaysians in the United States and only 4,000 remaining in Britain. Government policy has taken large numbers of Malay students, frequently from rural schools and has sent them overseas for education. Adjustment and academic problems are common, and officials are now rethinking overseas scholarship

policy. There is a move to provide some post-secondary education at home prior to sending students overseas in an effort to minimize these adjustment difficulties.

The Malaysian situation is complex because large numbers are studying abroad under various scholarship programs and private sponsorship as well. Most Malaysian students return home since job prospects are good. Those on government scholarships are obligated to return in any case. The Malaysian case is significant because of its size and complexity and because it is an example of a country which has placed great stress on foreign study to provide training and to alleviate pressure on the local post-secondary, institutions.

Governmental policies by the host nations can also be of considerable importance. The most dramatic and controversial example is Britain's 1980 decision to adopt a 'full-fee' policy for overseas students, a policy which immediately raised tuition fees to as much as $13,000 per year and had the result of cutting the numbers of overseas students in Britain. The Conservative Government, faced with economic difficulties, raised foreign student fees as an economic measure. But the ensuing debate about this policy included consideration of a much wider array of issues, including: the value of an international element in British higher education, the research output of overseas students, access of British scholars to overseas institutions, the economic impact on the balance of payments, political factors including the maintenance of goodwill toward Britain and providing training in, democratic values and, finally, British responsibilities to the Commonwealth.[34]

British policy had wide repercussions on the attitude of Third World nations regarding British education—Malaysia in the most dramatic gesture, not only ordered its scholarship students to avoid Britain but also curtailed British imports. British policy, which was strongly opposed by the universities, affected enrollments in some fields at a time when demographic pressures on enrollments were being felt. The policy has been somewhat modified but remains basically in force despite considerable criticism. Other European nations have been examining foreign student policies and a few have started to limit enrollments in some fields. West Germany, for example, has placed restriction on the numbers of Third World students who can study in some high-demand specialities.[35] Curiously, France, which has the highest proportion of foreign students in its universities (over 10 per cent) has not questioned its own quite liberal foreign student policy. There is, in Europe, a difference in policy Third World students, where restrictions have increased, and for students from Western Europe, who are protected by European agreements making it very easy to cross borders to study. Canada and Australia have also questioned their traditional fairly open policy concerning overseas students in response to economic pressures on higher education.[36]

American policy, because of the decentralized nature of the American educational system, has included many, frequently contradictory, elements.[37] The Federal government, through a variety of programs, sponsors foreign

students. The Agency for International Development has brought thousands of graduate students to study for advanced degrees in many fields. The Fulbright Program provides scholarships for students, professors and others, usually for non-degree study. Private foundations, especially Ford and Rocketfeller, have sponsored many students from the Third World. Despite recent financial cutbacks, there is strong national support for international education and foreign study. The states, which control basic higher education policy in the public sector, have by and large not developed coherent policies regarding foreign students and frequently treat students from overseas in the same way as they treat students from other states within the U.S. A few have begun to question the subsidies that are provided to foreign students through low tuition fees in public institutions. There has also been some questioning of the advisability of very high foreign student enrollments in some graduate fields, such as engineering. Some less selective private universities, faced with enrollment problems, have aggressively recruited foreign students. Their main concerns have been to fill empty classrooms.

At the same time that USAID and other agencies have expressed concern at the numbers of foreign students remaining in the United States after finishing their studies, federal government immigration policy permitted those with relevant skills to remain. There have recently been proposals to ensure that individuals who enter the United States to study must return home after their degrees have been completed. However, no action has as yet been taken since this debate is linked to a broader revision of American immigration policy which has been stalled in Congress for more than a year.

Organizations like the National Association for Foreign Student Affairs (NAFSA) and the Institute of International Education (IIE) have attempted to represent the international education community in the United States and to press governmental agencies at all levels and the universities themselves to take a more thoughtful and rational approach to foreign student policy. Efforts have been made, for example, to press universities to consider the curricular implications of foreign students and to point out to government authorities that a comprehensive approach to foreign students would be advisable. At present, however, a variety of interests, orientations, and institutional factors all contribute to a range of policies at the institutional, state and federal levels regarding foreign study. While Goodwin and Nacht's characterization of this situation as an "absence of decision" may be oversimplified, it is certainly the case that there are many kinds of decisions which contribute to a variety of approaches to foreign study in the United States.[38]

These examples indicate the complexity of political and other factors that contribute to shaping the foreign student policy of most countries. Perceptions of economic advantage have played a key role in Britain in recent years. Political and ideological factors are crucial in Soviet decision making regarding foreign study in the U.S.S.R. At the federal level, the American wish to dovetail foreign student policy (and overseas aid in general) to the

needs of American foreign policy is evident.[39] In countries like Ethiopia and Nicaragua, political factors have meant a change in foreign student policy—students who once were sent to the West to study now go generally to the Socialist countries. In China, it is possible to observe a variety of approaches to foreign study that have been determined by broader political factors and approaches to development. In many Third World nations, pressures from the articulate middle classes tend to boost the numbers of students sent abroad in order to satisfy pent-up demand for post-secondary education, even if the economy does not need the manpower being trained overseas. Finally, in recent years there has been a rethinking of the early emphasis in many Third World nations on higher education at the main engine of development and this tendency may reduce the availability of scholarships for overseas study. The major aid agencies as well as the World Bank have also tended to deemphasize higher education.[40] The factors that influence foreign student policy are complex and varied. It is clear that political, ideological, economic, and sometimes educational factors are all mixed. The interests of governments, of individual students and their families and of academic institutions are all involved in the equation. Political orientations and policies change rapidly as well. This complexity makes the shaping of foreign student policy difficult.

Chart 1

KEY VARIABLES AFFECTING THE PERSONAL DECISION TO STUDY ABROAD BY THIRD WORLD STUDENTS

Key Variables Pertaining to Home Country (Push Factors)	*Key Variables Pertaining to Host Country Country (Pull Factors)*
1. Availability of scholarships for study abroad	1. Availability of scholarships to international students.
2. Poor quality educational facilities	2. Good quality education.
3. Lack of research facilities	3. Availability of advanced research facilities.
4. Lack of appropriate educational facilities	4. Availability of appropriate educational facilities with likely offer of admission.
5. Failure to gain admission to local institution(s)	5. Presence of relatives willing to provide financial assistance.
6. Enhanced value (in the market place) of a foreign degree	6. Congenial political situation
7. Discrimination against minorities	7. Congenial socio-economic and political environment to migrate to.
8. Politically incongenial situation	8. Opportunity for general international life experience.

Foreign Study and Dependency

Foreign study takes place in a context of global economic, technological, and political inequality. The context of inequality is particularly dramatic precisely where the largest flow of students occurs—between the Third World

nations and the industrialized nations of the West. Analysis of the inequalities between nations and the impact on foreign study and international education has been rare. While it is clear that foreign study occurs in a situation of global inequality, most discussions are couched in terms of exchanges, mutual understanding, cooperation and development. It is important, nonetheless, to understand the total context.[41] It is not the purpose of this discussion to claim that all foreign study is necessarily detrimental to the Third World but rather to point out the paradoxical character of foreign study from the perspective of Third World—the principal generator of international student flows. International study for Third World nations must represent a mixed blessing.[42]

The following aspects of the foreign study equation relate to global inequalities and may, in some contexts, contribute to a continuation of inequality.

*Foreign students become acclimated to working in an international language—usually English or French—and often find it difficult to use an indigenous language for scientific work at home. Language issues are a very important part of the international student experience but in this context it is not so much the problem of adequate knowledge of the language of instruction at the beginning of the sojourn but rather the ties to the foreign language and its culture that are forged during study.[43]

*Foreign students become part of an international knowledge network of journals, books, associations and informal relationships. This, of course, is an advantage in terms of keeping abreast of modern science, but it may have negative implications for the local scientific community and for engaging in locally relevant research when the student returns home.

*Foreign students may imbibe the culture of the host country as well as its technological knowledge and this may engender unrealistic attitudes, orientations toward consumer goods, or working styles which make re-adjustment to their home countries difficult.[44] Returned foreign scholars may become consumers of Western goods, both consumer products and intellectual orientations.

*Foreign study frequently orients the student toward the methodological norms, ideological approaches and in general the scientific culture of the host nation. Such orientations may be positive in some respects, but may also create a dependence of the local academic and research systems on foreign models and even laboratory equipment.

*Foreign study adds, in many nations, a certain prestige to the individual who has been abroad. This prestige frequently leads to better job opportunities and access to power. From the viewpoint of a equitable distribution of resources in society, this may not be a positive element.

*The location of foreign study may make a difference not only in the outlook and attitudes of an individual but also for professional opportunities. Study in France, for example, frequently orients a foreign graduate toward the French academic network of journals, books, scientific associations and the like. Study in the Soviet Union will very likely give a graduate an

orientation to a scientific field that reflects the Soviet approach to the field. Such orientations may have career implications as well as long term effects on orientations to a field and to research.

*Links between industrialized and Third World nations are key determinants of the nature of international student flows and of continuing intellectual and academic relationships among nations. Most important, of course, are the continuing links between France and Britain and their former colonial possessions. Traditionally, students from the colonies tended to go to the metropole. Linguistic factors, perceptions of educational quality and prestige, links between examination systems, and "old boy" network, and official policies of government all contribute to this situation.

In general, foreign study tends to tie Third World nations more closely to the metropolitan centers to which they send their students. This is perhaps an inevitable result of the superior scientific and academic systems of the industrialized nations. In most cases, it is likely that the skills and knowledge obtained through foreign study outweights the negative implications of this experience. It is also likely that careful planning can provide means of alleviating some of the possibly negative impact of foreign study.[45]

The Future of Foreign Study

There is no question but that foreign study is a permanent phenomenon of higher education. University are, after all, international resources which have traditionally looked all over the world for inspiration and development. Academic models in America, and in most other parts of the world, are an amalgam of institutions and practices from other countries. Research and the curriculum know no international boundaries. And there is increasing recognition that an international orientation in higher education is a positive element.

Foreign study has also become 'big business' in many countries and an issue of considerable debate and controversy as well. It is very difficult to predict trends and flows, but several factors will help to determine patterns and policies of foreign study.

*As indigenous academic systems are built up in Third World nations, there will be less need for overseas study. Governments will cease to sponsor students for foreign study if places are available at home.

*Fiscal problems, currently endemic in a number of Third World nations, have a negative impact on the number of foreign students from that country. Countries with massive foreign debts, such as Brazil, or with overextended development plans, like Nigeria, have already cut back on the numbers of foreign students. Mexico and Venezuela, which had large and well funded overseas scholarship programs, have severely curtailed these efforts.

*As incomes rise in the Third World, there will be a tendency for families to privately sponsor foreign study. This is particularly true for minority groups or ethnic populations which feel themselves under actual or potential threat. An example here is the Chinese population in Southeast Asia, which

sends its children overseas for study—and contributes to the 'brain drain' since many of these young people do not return.

*Third World countries with problems of foreign exchange may curtail foreign study opportunities, even those funded privately. This has already occurred in India, where foreign exchange is difficult to obtain and there are a series of restrictions placed on fields of study, approved institutions and the like.

*The balance between undergraduate and graduate students will continue to shift toward a preponderance of graduate students in foreign student population.

*As some Third World nations shift emphasis from higher education to primary and secondary education in development plans, there will be less money available for overseas scholarship schemes, but at the same time there will be increased pressure on local universities for admission and perhaps a larger volume of privately funded foreign students.

None of these factors presage a massive increase in the numbers of foreign students, and on balance, there might be a levelling off or even a decrease in demand over time. There are fewer countries which are likely to reach a level of development and incomes that will stimulate a large increase in the numbers of foreign students. Examples in the recent past include Iran (prior to the downfall of the Shah), Nigeria, during its 'oil boom', and Malaysia. In general, there are more countries which have run into economic difficulties than have emerged into a degree of affluence. South Korea, Taiwan and Hong Kong are already large 'exporters' of foreign students and are unlikely to significantly increase their flows.

Trends in the industrialized nations are also difficult to discern. Britain's 'full fee' policy caught most analysts by surprise, although the previous Labour government was raising questions about foreign student policy and subsidies. There is a trend in Western Europe toward instituting restrictions on foreign students from Third World nations, while barriers to students from within Western Europe have been eliminated although relatively few students have thus far taken advantage of opportunities for foreign study in Europe. In the United States and Canada, there is increasing discussion of the fiscal aspects of foreign students, but at the same time a strong commitment to international education. In Canada, some restrictions have already been put in place, but in the United States, there have so far been no direct moves at the federal level against foreign students. In the Socialist countries, policy seems to be basically unchanged. In these countries, all foreign, students are officially sponsored and there is no scope for privately financed overseas students.

Those concerned with foreign study—policy makers in both the Third World and in industrialized nations, professionals who have responsibility for working with foreign students, academic administrators who determine institutional policy, and the students and their families all seem to look at the issue with a growing sophistication concerning all of the facets of foreign study. Cost benefit analysis, accountability, and the relevance of foreign

study for the job market are likely to be the hallmarks of decision making in the coming period. Foreign policy issues and the traditional links with former colonial powers may have less sway in the immediate future.

But foreign study remains an important issue. Hundreds of thousands of students will make their way across international frontiers for study. Expenditures—by governments, foundations, families and institutions will continue in the millions of dollars annually. And there will be pressure on all concerned to develop innovative ways of dealing with an issue that has become both a challenge and a benefit in contemporary higher education.

Footnotes

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Wastage Among Scheduled Caste and Scheduled Tribe Students

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The problems that have beset the reservation system have mainly originated in the fact that it has not been linked to the income of the beneficiaries thereby resulting in benefits being extended to the less economically, socially, academically deserving among the SC/STs. This is true of the Indian Institute of Technology (IIT) Bombay too. At least 50% of the SC/ST students selected into IIT Bombay since 1973[1] are from a good economic and social background. They are also not necessarily the brightest among the nation's SC/STs.

Generally speaking, seats reserved for SC/ST students have been filled up with whatever student material was available. By and large, bright. socially depressed SC/STs have for some reason or the other failed to apply to the IITs. The practice of taking in students who are not well equipped for the IIT system of education has led to a lot of wastage.

Educational wastage is explained in terms of grade repetition and drop out rate. A study conducted at IIT Bombay[2] shows that out of 174 students admitted to IIT Bombay from 1973 to 1979,[3] 68 left of their own accord or were asked to leave the institute at various stages of the B.Tech. programme. This points to the enormous drop out rate (39%) in the case of SC/ST students.[4]

Of the successful ones the majority (58) passed in the second class. The average period of passing out for the 1974, 1975, 1976, 1977, 1978 and 1979 batches admitted through JEE (Joint Entrance Examination) has been 7.4 years, 5.33, 5.83, 5.6, 5 and 5 years respectively. Direct Admissions[5] also

*The views of the Institute and its official bodies are not necessarily those of the authors.

were made in 1975, 1976 and 1977. The average period for passing out for students taken through the Direct Admission Scheme has been 7.6, 5.5 and 5.8 years respectively (refer to Table 1). The normal period required for a student to pass out under the old[6] B.Tech programme is 5 years.

Though the average figures by themselves do not seem terribly alarming, looking at the results of SC/ST students who completed the B.Tech. programme, one finds that only 28 students passed out in 5 years, 24 students took 6 years, 14 took 7 years, 7 took 8 years, 3 of them took 9 years and 1 took 10 years to complete the programme. From this one can guage the small percentage of students who were able to complete the programme within the normal span of 5 years.

4 students admitted in 1975 have a backlog of 13 to 25 courses. 4 students admitted in 1976 have a backlog of 2, 7,23 and 27 courses. 3 students from the 1977 batch have a backlog of 6, 7 and 21 courses. 4 students admitted in 1978 have to clear 5, 7, 10 and 18 courses. 8 out of 13 students admitted in 1979 were yet to clear the programme; 1 of them was to have passed out in July 1984 and 2 in August 1984.[7] The remaining 5 students have a backlog of 29, 25, 17, 13 and 13 courses. The number of backlog courses indicates the extent of stagnation in terms of the possible number of years the student would take to complete the programme. The data also reveal that the academic capability of some of the students selected through the reservation scheme was sometimes so low that they needed 1½ to 2 times the normal span of time i.e. 7 to 10 years to complete the B.Tech. programme. A worse situation is not impossible to visualize in the case of the student who has already spent 5 years in IIT and who has yet to clear 27 backlog courses.

A major factor contributing to the failure of SC/ST students in IIT Bombay is the absence of preparation for the IIT system. A section of SC/ST students interviewed disclosed that they did not prepare at all knowing full well that they would be admitted through the reservation scheme. But it is observed that lack of preparation keeps the students completely alien to IIT expectations, its standards, the amount of hard work and capacity for comprehension required here. Not preparing for IIT,[8] later affects the level of motivation to face this absolutely meritocratic set up. (Refer to Table 2).

A few of the students said that they were aware of the existence of coaching classes but could not afford to avail themselves of this facility. Some, however, confessed that they were not aware of the existence of such coaching.

Furthermore, the highly competitive set-up of IIT, with its system of continuous evaluation and relative grading makes academic survival difficult for all students (SC/ST or non SC/ST) but more so for SC/ST students. While none of the non SC/ST students interviewed continued to be poor performers over a long period,[9] the same could not generally be held of SC/ST students. Once an SC/ST student plumbs academically, he finds it very difficult to keep up with the class and to make up the difference at the same time.[10] The pace of teaching at IIT is swift and the SC/ST entrant has at entry point itself numerous academic handicaps. So SC/ST students

Table 1

Year	Total admitted	Mode of admissions	Left on their own	Asked to leave	Passed	Migrated	Still continuing	Re-admitted	Period for passing out: 5 yrs	6 yrs	7 yrs	8 yrs	9 yrs	10 yrs	Performance: I Cl.	II Cl.	Pass Cl.	Average No. of years taken
1973	15	JEE	5	6	4	—	—	—	3	—	—	—	1	—	—	4	—	JEE—* Direct—Nil
1974	37	JEE	6	26	25	—	—	—	1	9	9	4	1	1	6	18	1	JEE—7.8 Direct—Nil
1975	27	Direct (24) JEE (3)	2	9	11	1	4 BL=13, 25, NCC/NSO/PT	—	2	2	4	2	1	—	1	10	10	JEE—5.33 Direct—7.6
1976	20	Direct (12) JEE (8)	2	4	10	—	4 BL—2, 7, 23, 27	—	5	4	0	1	—	—	2	8	—	JEE—5.83 Direct—5.5
1977	42**	Direct (33) JEE (9)	14	3	21	—	3 BL—6, 7,21	—	14	6	1	—	—	—	6	15	—	JEE—5.6 Direct—5.8
1978	20	JEE	3	4	8	1	4 BL—5, 7, 16, 18	1 through JEE	6 (2 in 5½ yrs.)	0	—	—	—	—	4	4	—	JEE—5 Direct—Nil
1979	13	JEE	—	4	1+2 (3 are about to pass out)	—	5 BL—29, 25 19, 13, 13	—	1	—	—	—	—	—	—	—	—	

*All students through JEE but down to 0 per cent level.
**No information about one case. B.L. =Backlog
***They passed out in July/August 1984

Table 2

INDICATING IMPACT OF PREPARATION FOR IIT ON ACADEMIC PERFORMANCE

Category	*Cumulative point index Preparation category*	*Beyond 8*	*6.5 to 8.0*	*5.0 to 6.4*	*Below 5*
SC/ST*	ACC	—	2	2	1
	AOC	—	1	7	2
	Self study	—	—	9	3
	None	—	—	5	6
Non SC/ST	ACC	7	6	4	—
	AOC	1	5	3	—
	Self study	1	2	12	—
	None	1	—	2	—

ACC—Aggarwaal Coaching Classes
AOC—Any Other (Coaching) Centre
*10 SC/STs interviewed (for the study cited above) did not take the J.E.E. They entered IIT Bombay through the Direct Admission System in operation from 1975-77.

admitted despite academic deficiencies do not find it easy to adjust or to continue. However, a few students do overcome their academic deficiencies. The effort put in is always superhuman. And not all SC/ST students have shown the same grit, the same desire to work hard.

There are several special facilities available to SC/ST students in the IITs. These are the facilities of dropping courses in the first year, extra tutorials only for SC/ST students, easy transfer from one branch to the other, the facility to offer a reduced course load in the first two semesters, scholarships/ financial grants and free education, availability of books on loan without any charges etc.

Despite special measures to support the education of SC/ST students in IITs, the students often fail to fulfill the academic requirements and dropout of the programme sometimes after having spent 3 to 4 years here. Though some SC/ST students have benefitted, the reservation scheme is not successful in the true sense of the word. SC/ST students admitted through the reservation scheme face immense problems academically. Their inability to clear the programme within a reasonable period of time or to clear it at all is indicative of inordinate "wastage".

Unfortunately, no follow up is made of failures.[11] In fact, even their addresses are not maintained. Rehabilitation of failures is not on the cards at all when it really ought to be particularly with the powers which insist upon the filling up of the reserved seats by going down to fairly low levels of academic achievement.

"Wastage" in institutions of higher learning has not only enormous economic implications but also serious psychological repercussions for the beneficiaries. Apart from facing failure repeatedly within the institute, the student may have to leave without completing the programme. Then the future before him is hard and cruel. First, he may have to begin all over again, the years he spent in IIT having zero value in terms of recognized additional academic qualification, and secondly he may have to face his family and friends as a failure, as a person who could not make it. Both options are difficult to face at any age, more so when one is young and impressionable.

How then is the objective of upliftment through reservations fulfilled when there is many a story of failure to narrate? Is it not time we took a hard look at the scheme of reservation instead of bemoaning our fate that our society is being filled up with "thirdrate" engineers and doctors, as is generally alleged by critics of positive discrimination?

Recently, students in different parts of the country have been agitating against reservations because they feel that increased quotas for less able students would adversely affect their chances of getting into educational institutions. But we as educationists while supporting reservation are agitated over something else—the fate of those SC/STs who get selected into IITs (through the reservation system) and who leave after a stay of 3-4 years without acquiring a degree. This will alter only when an all out attempt is made to get bright, truly deserving SC/STs to fill up the reserved seats quota in the IITs.

This may mean three things. First, it may mean literally combing the country for such SC/ST students who are academically bright but who either do not know that such concessionary entries to the IITs exist and who therefore tend to crowd into other engineering colleges or who do not have the requisite facilities that could develop their potential and prepare them for education in very competitive set-ups such as IITs.

It may also mean "adopting" villages and small towns, spotting deserving, bright SC/STs still at school and nurturing them academically so that they too can make a success of their lives in meritocratic institutions.

It may also mean locating bright and "motivated" SC/ST students who exhibit a desire to work for others of their own kind. Coming to the IITs should not mean their getting totally lost in the pursuit of personal en-enhancement—glamourous life styles, well paid jobs, important contacts, etc. On the contrary, they must be trained to sustain their concern for their own unfortunate brethren so that when they go out of the IITs they undertake to develop better facilities for the education of SC/ST children and set up appropriate centres that can generate employment for SC/ST people of their village/city.

The success of a scheme such as the reserved seats system is not to be measured by the number of seats filled up but by the number of deserving students who (without undue agony and uncertainty) pass out successfully and who go out and help develop and uplift their own community.

Only when we have achieved success in these terms, will we at the IITs proudly and honestly be able to say to ourselves—"Yes, the reservation scheme exists and though one could have implemented it mechanically, we have not done so. We have, on the other hand, gone out of the way to see to it that it can be implemented in the best way, that is, to the best advantage of those who really needed upliftment." Only then will we be able to sit back and rest. But not until then.

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3. The data of successful batches of SC/ST students is available only until the 1979 batch so far. Batches admitted since 1981 will complete their B.Tech. from April 1985 onwards. Their results will be available in June 1985 only. The performance data represents data collected until June 1984.
4. Our conclusions and observations are confined to the situation in IIT Bombay, since detailed data from other IITs is not available.
5. Some students were admitted directly without their having taken the Joint Entrance Examination. However, this system was discontinued from 1978 onwards because of the by and large poor performance of students admitted under this system.
6. The new B. Tech. programme in force in all IITs since 1981 is of 4 years duration.
7. Updating this data on the basis of whatever results were available, we found that 2 of these students passed out in July/August 1984, 3 will pass out in May/July 1985 and 3 will take a semester or two to complete the programme.
8. Barring a few exceptions, SC/ST students have had poor pre-IIT schooling.
9. Non SC/ST students are also asked to leave IIT because of poor performance but none among those interviewed for the study had to leave the institute because they gradually improved their performance.
10. Students are not detained in a class if they fail. They are allowed to clear backlog courses at a staggered pace while they simultaneously also clear some of the regular courses. In the 5-year B.Tech. programme, a student could be registered for the 5th year and also clear a backlog first year course. In the 4-year B.Tech. programme more stringent regulations have been introduced in the light of the unhappy experience of an unrealistically large number of backlog courses accumulated by students. Now it is mandatory for students to clear the courses of the first three semesters before being permitted to register for the next semester for their specialization.
11. This is true of all failures—SC/ST as well as non SC/ST.

Protective Discrimination and the Equality of Opportunity

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The aim of this paper is to find out the impact of the policy of protective discrimination on the changing social status of the scheduled castes (SC) vis-a-vis non-scheduled castes (non-SC) college students. To be specific, the aim is to find out:

> (1) The class composition of the SC vis-a-vis non-SC college students, and (2) Whether or not there was any association between class status and occupational aspirations of the SC vis-a-vis non-SC college students

It is evident from the formulation of objectives that the subject of equality of opportunity is being analysed from two points of view viz., access to higher education and occupational aspirations.

An analysis of the class composition of the SC and non-SC students will reveal the degree of access to higher education. However, this by itself will not give us a true picture of the subject i.e., the changing pattern of social mobility orientations, as the process of occupational choices further undergoes a "progressive delimitation of alternative" (Rosenberg, 1957). One's level of perception of occupational goals not only depends on one's class status but also on caste status.

Hypotheses

The hypotheses of the study were as follows:

(1) Access to higher education among the SC students was more influenced by class status than among the non-SC students.

(2) The occupational aspirations of the SC students were more influenced by their class status than those of the non-SC students.

Methodology

The universe of the present study consisted of all the pre-university second year students (1002, only Hindus excluding 192 Muslims) studying in all the colleges of Gulbarga City (Karnataka) during the year 1979-80. The data for the study were collected by administering a printed semi-structured questionnaire in English and also in Kannada, the regional language of Karnataka state, on the respondents.

The class background of the respondents was measured by constructing a Composite Index for Class Background (CICB). The index consisted the respondents' family class status (FCS), Kins' class status (KCS), peers' class status (PCS), neighbours' class status (NCS), and rural-urban background. The differences in the occupational aspirations of the SC and, non-SC respondents were tested for their significance by using the X^2 test.

Class Status and Access to Higher Education

Table 1

PERCENTAGE DISTRIBUTION OF SC AND NON-SC CASTES STUDENTS BY CICB

	SC				*Non-SC*				*X^2 between SC and Non-SC*
	Class Status				*Class Status*				
CICB Components	*Low*	*Middle*	*High*	*Total*	*Low*	*Middle*	*High*	*Total*	
FCS	69	21	10	100	34	34	32	100	102.3, df=2 P<.001
KCS	96	3	1	100	72	19	9	100	89.1, df=2 P<.001
PCS	86	12	2	100	61	23	16	100	89, df=2 P<.001
NCS	84	14	2	100	35	46	19	100	232, df=2 P<.001
R-UB*	28	23	49	100	23	17	60	100	21.35, df=2 P<.001
CICB	75	17	8	100 (288)	25	35	40	100 (814)	256.9, d=f2 P<·001

*Rural-Urban Background= Village, Town and City

It will be seen from Table-I that as high as 61 per cent of the SC students were drawn from the low FCS, whereas 21 and 10 per cents were from the middle and high FCS. In other words, a large per cent (61) of the low FCS SC students had access to higher education. On the other hand, data for the non-SC students showed that access to higher education was uniformly divided. This shows that more low FCS SC than non-SC students had access to higher education.

An examination of the data on KCS broadly shows that a majority of both SC and non-SC students belonged to low KCS. However, there were wide differences in the KCS of the two groups. For instance, almost cent per cent of the SC students (96 per cent) were from the low KCS, whereas 72 per cent of the non-SC students were from the low KCS. It was evident from the data on the KCS of the respondents that while cent per cent SC students belonged to the first generation, a considerable proportion of the non-SC students belonged to the second generation, the fact that a considerable proportion of the non-SC students belonged to the second generation shows that they had more opportunities for counselling and guidance in choosing and selecting educational courses.

Data on the PCS also showed that 86 per cent of the SC students, as against 61 per cent of the non-SC students were from the low PCS. Compared to the KCS, the PCS among both groups was relatively more differentiated, which, in turn, means both groups were more exposed to the forces of modernity. However the degree of exposure in the non-SC group in terms of class differentiation was more, as about 40 per cent of them came from the middle and high PCS. The next component viz., the neighbourhood class status, as data showed, was more differentiated among the non-SC than among the SC students. For example, 46 and 19 per cents of the non-SC, as against 14 and 2 per cents of the SC students, had come from the middle and high NCS, respectively. This clearly indicates that more SC than non-SC students participated in their caste neighbourhoods, which means their occupational perception was likely to be low, narrow and restricted.

Rural-urban composition of the respondents showed that a majority of both SC and non-SC students (49 and 60 per cents, respectively) had come from cities, However the proportion of the city students was more among the non-SC than among the SC students. It means although both groups were from the urban background, the non-SC students were more urban-based than the SCs.

Finally, an examination of the CICB gave a total picture of the net-work of the class relations of the respondents.

It will be seen from the data that a majority of the SC students (75 per cent) were drawn from the low CICB, while there was a greater degree of dispersion of the CICB among the non-SC students. The fact that a majority of SC students were from low class status does not lend support to our hypothesis. This finding suggests that there was a growing awareness among SC students about the facilities by the government.

Social Class and Occupational Aspirations

In the following sections an attempt has been made to analyse the, influence of class status on the occupational aspirations of the SC and non-SC students. To be specific, the aim has been to know whether or not there were acute class differentials in the occupational aspirations of the SC and non-SC students.

Family Class Status

Table 2

PERCENTAGE DISTRIBUTION OF OCCUPATIONAL ASPIRATIONS OF SC AND NON-SC STUDENTS BY FAMILY CLASS STATUS

	SC				*Non-SC*			
	Family Class Status				*Family Class Status*			
Occupational Aspirations	*Low*	*Middle*	*High*	*Total*	*Low*	*Middle*	*High*	*Total*
Low	74	11	4	56	57	30	14	34
Middle	20	64	33	30	28	33	22	28
High	6	25	63	14	15	37	64	38
Total %	100	100	100	100	100	100	100	100
Total No.	200	61	27	288	274	279	261	814
% to Total No.	69	21	10	100	34	34	32	100
	X^2—133, df=4 P<.001				*X^2—164, df=4 P<.001*			

It will be seen from Table II that a majority (74 per cent) of the low FCS SC students had low occupational aspirations. The remaining 31 percent drawn from the middle and high FCS, had their corresponding, occupational aspirations. It is clear that the main beneficiaries among the SC students were from the middle and high FCS.

It should be noted here that there was more or less equal dispersion of FCS among the non-SC students. However, an examination of their (non-SC) occupational aspirations revealed that a greater proportion of the upper FCS students had higher occupational aspirations, while a majority of the low FCS had low occupational aspirations. This indicates that there was an

intervening effect of caste status among the non-SC students through class status on their occupational aspirations.

From these data it appears that the SC students had, relatively speaking, a lesser degree of equality of access to modern occupations as compared to the non-SCs.

Kins' Class Status

Table 3

PERCENTAGE DISTRIBUTION OF OCCUPATIONAL ASPIRATIONS OF SC AND NON-SC STUDENTS BY KINS CLASS STATUS

	SC			*Non-SC*		
	Kins' Class Status			*Kins' Class Status*		
Occupational Aspirations	*Low*	*Middle*	*High*	*Low*	*Middle*	*High*
Low	55	13	33	41	22	7
Middle	31	37	—	29	27	18
High	14	50	67	30	51	75
Total %	100	100	100	100	100	100
Total No.	277	8	3	588	154	72
% to Total No.	96	3	1	72	19	9

$X^2=74.6$ $df=.4$ $P<.001$

The data in Table-III show that although 96 per cent of the SC students were from the low KCS, 55 per cent of them had low aspirations, while 31 and 14 per cents had middle and high occupational aspirations, respectively. This indicates that the low KCS did not have a discouraging effect on the occupational aspirations, which further showed that some other intervening factor was nullifying the effect on the low KCS.

The majority of the non-SC students, too, were from the low KCS, (72 per cent) and of the low KCS non-SC students, 41 per cent had low occupational aspirations while the remaining (59 per cent) had middle and high occupational aspirations. It is further pertinent to record that of the 19 and 9 per cent middle and high KCS non-SC students, a majority (51 and 75 per cents, respectively) had high occupational aspirations. This shows that low KCS among the non-SC students, compared to SC, had a less discouraging effect on their occupational aspirations. This probably explains the intervening effect of the high ritual status of the non-SC students in moulding their occupational perception.

Peers' Class Status

Table 4

PERCENTAGE DISTRIBUTION OF OCCUPATIONAL ASPIRATIONS OF SC AND NON-SC STUDENTS BY PEERS' CLASS STATUS

	SC			*Non-SC*		
	Peers' Class Status			*Peers' Class Status*		
Occupational Aspirations	*Low*	*Middle*	*High*	*Low*	*Middle*	*High*
Low	60	18	17	44	18	21
Middle	30	38	—	30	27	18
High	10	44	83	26	55	61
Total %	100	100	100	100	100	100
Total No.	248	34	6	494	190	130
% to Total No.	86	12	2	61	23	16
	$X^2=33.49$, $df=2$ $P<.001$			$X^2=211.6$ $df=4$ $P<.001$		

It will be seen from the data, as shown in Table-IV that there were, important differences in the occupational patterns of the SC and non-SC students. For example, of the 86 per cent low PCS SC students, as many as 60 per cent had low occupational aspirations. On the other hand, of the 61 per cent of the non-SC low PCS students only 44 per cent had low occupational aspirations. It is further important to observe that a majority of the middle and high PCS non-SC students had high occupational aspirations. This indicates that class status clubbed with cultural drives acts as a strong mechanism of motivation for higher goals in life. In other words it appears that the effect of class status is conditioned by one's ritual status or cultural value-orientations of that ritual group.

Neighbourhood Class Status

Table 5

PERCENTAGE DISTRIBUTION OF OCCUPATIONAL ASPIRATIONS OF SC AND NON-SC STUDENTS BY NEIGHBOURHOOD CLASS STATUS

	SC			*Non-SC*		
	Neighbourhood Class Status			*Neighbourhood Class Status*		
Occupational Aspirations	*Low*	*Middle*	*High*	*Low*	*Middle*	*High*
Low	62	14	40	53	27	19
Middle	20	38	20	29	30	19
High	9	48	40	18	43	62
Total %	100	100	100	100	100	100
Total No.	241	42	5	283	374	157
% of Total No.	84	14	2	35	46	19
	$X^2=53.6$, $df=2$ $P<.001$			$X^2=93.5$, $df=4$ $P<.001$		

It is evident from the data from Table-V that the occupational aspirations of the SC students were very low as a majority of them (86 per cent) were from the low NCS. For example, 62 per cent of the low NCS students had low occupational aspirations. However, of the small (14 per cent) middle NCS SC students, 48 per cent had high occupational aspirations. It appears that only a small proportion of the SC students tended to perceive chances of upward mobility in the social hierarchy.

On the other hand, data for the non-SC students show that 53, 43 and 62 per cents had low, high and high occupational aspirations, respectively. The distribution of the data for the non-SC students revealed that middle and higher NCS students had lower aspirations than their NCS proportions warranted. This indicates a relatively greater degree of equality of opportunity among the non-SC than among the SC students.

Rural-urban Background

Table 6

PERCENTAGE DISTRIBUTION OF OCCUPATIONAL ASPIRATIONS OF SC AND NON-SC STUDENTS BY RURAL-URBAN BACKGROUND

	SC			*Non-SC*		
	Rural-Urban Background			*Rural-Urban Background*		
Occupational Aspirations	*Village*	*Town*	*City*	*Village*	*Town*	*City*
Low	81	49	41	45	45	27
Middle	10	40	37	30	31	25
High	9	11	22	25	24	48
Total %	100	100	100	100	100	100
Total No.	80	67	141	186	136	492
% to Total No.	28	23	49	23	17	60
	$X^2=34.6$, $df=4$ $P<.001$			$X^2=44.7$, $df=4$ $P<.001$		

The rural-urban background of the respondents shows that, by and large, both SC and non-SC students came from urban background. However, there were wide variations in their patterns of occupational aspirations. For example, of the 49 per cent of the city SC students, 41 and 37 per cents had low and middle occupational aspirations, respectively. Similar was the trend for the town SC students. This means that urban background did not have appreciable impact on the occupational choices of the SC students. On the contrary, their low cultural (ritual) values, it seems, could not make use of the available facilities. This means that cultural factors considerably meddle and intervene in driving and directing individuals to higher levels of status. Data with regard to non-SC students showed that urban facilities

in terms of formal education, white-collar occupations, mass media etc., were much better utilised by them. For example, of the 60 per cent non-SC students, 25 and 48 per cents had middle and high occupational aspirations, so much so that even the town and village students largely tended to have higher occupational aspirations. From these data it could be said that urban facilities were more selectively utilised by the non-SC than SC students.

Composite Index for Class Background

Table 7

PERCENTAGE DISTRIBUTION OF OCCUPATIONAL ASPIRATIONS OF SC AND NON-SC STUDENTS BY CICB

	SC			*Non-SC*		
	CICB			*CICB*		
Occupational Aspirations	*Low*	*Middle*	*High*	*Low*	*Middle*	*High*
Low	69	8	9	66	35	14
Middle	27	51	22	25	36	22
High	4	41	69	9	29	65
Total %	100	100	100	100	100	100
Total No.	216	49	23	205	281	328
% to Total No.	75	17	8	25	35	40
	$X^2=118.5$ $df=4$ $P—.001$			$X^2=227$, $df=4$ $P<.001$		

An examination of the relationship oetween CICB and occupational aspirations of the respondents clearly shows that while it was only 25 per cent of the middle and high CICB SC students tended to be highly mobile, an overwhelming majority (75 per cent from the low CICB practically remained stagnant with low occupational aspirations. It means clearly that it was only 25 per cent of the upper class students who were monopoising or utilising the opportunities. while a majority of them were not. This reflects the weakness of the policy of reservations.

Data with regard to non-SC students, on the other hand, show that a majority of the middle and high CICB students tended to be highly mobile, as compared to those with low CICB. These data do reflect a certain degree of elitism among the non-SC students. Nevertheless, there appeared to be a greater degree of equality of opportunity among the latter (non-SC) then among the former (SC).

Summary and Conclusion

The aim of this paper was to examine critically the impact of the policy

of protective discrimination on the occupational aspirations of the SC vis-a-vis non-SC students in higher education. The specific objective of the study were to find out: (1) Whether or not the SC students, compared to their counterpart non-SC students, had come from a higher class status, and (2) Whether or not the occupational aspirations of the SC students were influenced by their class status similarly as those of the non-SC students The study revealed the following findings:

(1) An examination of the class composition of the respondents revealed that while 75 per cent of the SC students belonged to low class status, it was only 17 and 8 per cents that were from the middle and high class status, respectively. This means that a greater proportion of the low SC students were increasingly gaining access to higher education. On the other hand, access to higher education among the non-SC students was relatively equally distributed. However, a large per cent of both SC and non-SC students were from the urban background. This shows that it was the urban poor SC students who were making use of the benefits of reservations. On the other hand, it was the middle and upper class non-SC students with urban background who were having more access to higher education.

(2) An examination of the occupational aspirations of the respondents revealed that while a majority of the low class SC. students had low occupational aspirations, a small proportion of those who came from the middle and upper class had high occupational aspirations. On the other hand, the occupational aspirations of the non-SC students were relatively evenly distributed. From these data it becomes clear that mere access to higher education has not motivated the SC students to aspire for middle and high occupations. On the contrary, it turned out that a majority of the SC students under inquiry took to higher education not because they were willing or interested, but because of reservations. It is also clear that the policy has failed to serve its declared objectives, as a majority of the SC students could not display attitudinal changes. The large amounts expended on their welfare programmes, it would appear, is not only a waste of national wealth but also of human resources.

(3) The data also revealed that the occupational aspirations of the low class SC students were lower than those of the low class non-SC students. That means, motivation for upward mobility is not only influenced by one's class status but also by caste status. Thus, the problems of SCs should be viewed against the background of their low ritual status, and not on par with those of the non-SCs.

Suggestions

In view of our findings the folowing suggestons may be offered.

(*i*) *Undue Emphasis on Caste;* Ever since the 'policy' came into force, the

emphasis on caste as the basis of reservations has not only remained unchanged but has escalated. For example, a scheduled caste student is eligible for scholarship, admission and employment (as per quota and roaster system) irrespective of his (father's) class status. Similarly, the scheduled caste employees serving as class I and II Officers (teachers readers and professors) are eligible for supercessional promotions. In other words once a scheduled caste person reaches a higher class status (education occupation and income) he does not cease to qualify for reservations and promotions nor is he eliminated from the scheduled caste list. In the recent past, the scheduled castes students were permitted to seek admission and re-admission to higher education without having to pay for it, any number of times, regardless of their performance at the qualifying examinations. Thus the present model of caste criterion on which the 'policy' is based, does not "wean away" the upper class scheduled castes, on the one hand, nor demand a certain minimum level of performance, on the other, for the new entertants to higher education. Such a 'Policy' has not only harmed the interests of the scheduled castes but also led to caste tensions between scheduled and non-scheduled castes (Srinivas, 1979), Unless the "Policy" is redefined on the caste class continuum basis; the upper class scheduled castes will continue to corner away all the benefits of reservations.

(*ii*) *Elite Education;* The socio-economic upliftment of the scheduled castes is sought mainly through reservations in higher education and modern (white-collar) occupations. However, since the modern systems of education and occupations are elitist in character, reservations would not promote large scale mobility among them. On the contrary, the overall transformation of the scheduled castes calls for a provision for 'basic modernisation' in terms of literarcy, primary, middle and high school education; low and middle level jobs and measures to reduce their high rate of population growth. In short, 'grass-roots" modernisation of the social environment in which the scheduled castes live and a process of progressive "weaning away" of individuals. families and groups on class lines from the reservation quota, is likely to ensure their social transformation in Indian Society (In this connection see S.C. Dube's two articles in "The Times of India" July 15 and 16, 1981).

Media in Engineering Education

G. KUPPUSWAMY and R. NATARAJAN

Engineering Education currently faces increasing demands for more effective educational experience by the students, and diminishing financial resources available to support this educational task. The use of technological systems offers the potential for meeting a number of these needs, including an increase in productivity. This paper examines a range of critical issues relating to the successful use of educational instructional technology directed toward increasing productivity.

Learning occurs everyday without the aid of a slide projector, or even a teacher. But inside the class room, learning and teaching can be frequently associated with devices in the present day. The instructional media may be defined to be those components of the learning situation which stimulate the learner in other words, communicate with him. And although the teacher is the principal source of stimulation for the student, tools ranging from books to computer terminals can be used as well.

The difference between learning in the natural setting and class room learning is that, in the class room, experience is 'mediated'. The use of media is based on a set of assumptions about knowledge and how it relates to experience. The assumptions are that the effects of experience can be considered as knowledge, that knowledge is conscious, and that knowledge can be translated into words; symmetrically, words can be translated into knowledge; hence, one can learn, that is, one acquire knowledge from being told. By mediating between direct experience and knowledge, the teacher facilitates learning.

Principles of Learning and Instruction

Although psychologists and educators have not had a great deal of

success in establishing reliable propositions pertaining to instruction, a broad framework may be as below:

(i) It is better for the student to be actively involved in the learning process than to be merely a passive recipient of information. Here there is an emphasis upon learners and their needs as opposed to the intentions of the teacher.
(ii) Learning is greatly improved by practice. Also learning is helped even further by providing students with information about their performance (a feed-back).
(iii) Learning is nearly always oriented towards some goal, and learning is to be directed and encouraged by provision of appropriate rewards (e.g. praise and social approval).
(iv) There are considerable individual differences in learning, both quantitative and qualitative. Quantitative differences are related to such factors as speed of learning, while qualitative differences relate to matters of 'learning style.'
(v) Learning is both an affective (in the sense of relating to feelings and emotions) as well as a cognitive process. Hence student motivation is a vitally important matter to consider in any learning situation.

The notions concerned have all, in some way or other, influenced the development of instructional technology. Also there are few technologies that embody 'all of the principles. Similarly it is extremely difficult to elucidate a set of comprehensive learning principles that can be applied directly to a 'variety' of learning tasks.

Functions of Media

Specifically while analyzing the functions of media, a number of commonly accepted principles can be used as guidelines:

—Gain and control attention
—Inform the learner of expected outcomes
—Stimulate recall of relevant pre-requisites
—Present the stimulus
—Offer guidance
—Provide feedback
—Appraise performance
—Make provisions for transferability
—Insure retention.

Each of the above events can be used with any medium. To the extent that each is included, instruction will be more effective. Although these instructional guidelines are appropriate for all lharning situations, they are

applied differently types of learning. Both the selection of media and the applicatio of instructional events are dependent on the characteristics of the other elements in the system.

Media Selection

Media vary, in outline, in the way they perform three functions critical to learning: present a stimulus, require a response, and manage the immediate instructional environment. The way each medium performs these functions will determine the instructional task for which it is appropriate.

Media are selected by matching the characteristics of the medium to the demands of the instructional situation—the characteristics of the instructor, the content, the student and the environment.

The technology-based educational systems are best analyzed in the context of specific 'learning environments'. This approach places primary emphasis on real learning needs and sets the stage for discussing potential technology-based solutions. The following are two learning environments demanding mention:

(*ii*) *Grouped and Bounded Learning Environments*: Technology is currently having its effect on the educational process, and the field of technology promises bigger and better things to come in future. Communication satellites, video cassettes, miniature computers and cable television are just a few of the new tools available in education. Any technology which increases the rate of learning would enable the teacher to teach less, and the learner to learn more. It is essential that we examine a technology, weigh its costs and its benefits to ascertain its value as an educational tool now, and its potential value ten or twenty years from now.

For large class situations, more extensive use of technology includes use of motion pictures, slides and overhead projectors.

The individual or small-group study model is based on the assumption that the major fraction of student learning occurs in the self-study or peer-group mode, and that if efforts are expended to structure and aid this learning activity more effectively, an important amount of time that has been devoted to 'information processing' in lectures can be eliminated. A common pattern in all of these systems is a reduction in formal lecture time, and varying degree of individual student assistance. The media examples for this situation include audio tape cassettes, learning laboratories using audio tapes in concert with visual materials, and interactive lectures. Though television monitors can be used, these are not low-cost technologies at present.

(*ii*) *Individualized, Bounded Learning Environments*: The term 'individualized instruction' was coined, to distinguished this approach to learning from traditional teaching, in which a teacher delivers the content of a lecture or class to a group of students, without regard to individual differences in learning style or ability. The need for such an individualized approach to

learning is particularly imperative in a time of rapidly expanding mass education geared to the needs of a large number of students with widely disparate abilities. As student numbers increase—involving learners with different intellectual qualifications and motivations—the learning experience must take into account a much broader range of individual differences.

Much of the historical development of instructional technology has been focused on the use of media for presenting stimulus materials rather than on psychological learning theory as a basis for a technology of instruction. The recent rise of programmed instruction offers a distinct contrast to this historical motif. In the case of programmed instruction, psychological theory actually activates media for the purpose of incorporating principles of learning, instead of merely introducing a post-hoc theoretical rationale for instructional media.

Programmed learning has more than once in this century been announced as a revolution in educational techniques. The first time was when Pressey devised methods of giving immediate feedback or knowledge of results to students during the course of their learning. The second and louder claim was sounded by Skinner who modelled his techniques on conditioning procedures derived from his work with rats and pigeons, and this system is called as 'linear' programming. Another system, devised by Crowder is referred to as 'branching' or 'intrinsic' programming, and here a communications point of vew is adopted into which 'loops' and 'feedback' filconveniently as terms. Both claim that learning is best accomplished at the individual, learner's own rate.

An innovation to be mentioned in this context is the Personalised Systems of Instruction (PSI) or Keller pan, conceived by Fred S. Kelle, a well-known learning psychologist, which was first tried out at the University of Brasilia in 1964. In Texas in 1969, Billy V. Koen applied it first for a course in engineering. Another innovation is the Audio-Tutorial (AT) method initiated by Samuel Postlethwait of Purdue Un versity in 1962.

Computer as a Learning Resource

It is certain that the use of computers in higher education will extend most rapidly and extensively in dealing with problems that are common to education, science, business and public administration; that is, for high-speed computation and data processing. Already the use of the computer in higher education for the puposes of administration and research is becoming a major item in a university budget. But the proposition that a computer could also become a potent new vehicle for teaching and learning is more recent, though it is being taken up with considerable enthusiasm.

Computer-Assisted Learning (CAL), in which the computer is used as a highly sophisticated teaching machine which can replace and sometimes surpass many but not all of the functions of a human tutor, is the natural focus for the 'educational futurists'. Another possible future application is the Computer-Managed Learning (CML), the use of the computer for the

management of learning, and it represents an intermediate stage between its use for computation and data processing and its use in CAL.

Television

The glamour of television as an entertainment medium has at least brought it to everybody's notice, and it has probably received more attention in education during recent times than any of the other new media in the developed nations. Its potential for education lies in three main directions:

(a) it can show things that would otherwise be difficult to see, because they are of an inconvenient size, too far away or too complex;
(b) it can transcend the limits of space and time either by open-broadcast, closed-circuit or recorded transmissions;
(c) it can be used for evaluation of performance for instance, an athlete, an actor or a teacher can be recorded as he performs, and his performance can then be viewed in a reply by himself and others.

The other developments to be noted include the availability of the relatively inexpensive portable video-tape recorders which have recently come to the market. In marked contrast to this economical equipment is a closed-circuit television installation, complete with studio and distribution sytem, which cost much more.

The uses of media

(1) Firstly, new media can be used as aids to the presentation process: This has hitherto been the usual point of entry for new devices and techniques into the process of teaching and learning. The use of audio-visual materials over the whole range of teaching seems to add clarity and precision to the way the content of a particular lecture or teaching session is presented.

The other closely related results of audio-visual procedure are associated with clarity. One of these is accuracy. A carefully drawn diagram using colour (and possibly, in the case of overhead protector transparencies, several overlays) is usually preferable to a hastily drawn and sometimes inaccurate blackboard sketch; the presentation of mathematical formulae or tables (by slides or overhead protection) will certainly make it easier for a class to take notes and to follow the lecturer's commentary than is the case if he is simultaneously speaking and writing such tables by hand upon the blackboard. This is particularly important in scientific and engineering subject areas. In addition to the efficient presentation of the material to the student, the lecturer derives considerable convenience from having high-quality materials at his fingertips. He saves time in the class, and preparation time of it is to be repeated periodically.

(2) Secondly, media can be used as aids to demonstration. There is some evidence that interest is aroused and that learning is enhanced by new

methods of presentation, and also there is a whole series of teaching objectives which can be better achieved by new media. This is because they can actually reality or simulations of reality in a manner superior to that available to the solitary lecturer addressing a class. An example is motion pictures of machinery in operation. In addition, there is access to materials which otherwise would be quite inaccessible. Films and television can have a significant role in this context.

(3) Thirdly, media are used as aids to the solution of logistic problems.

The devices may offer the opportunity for the student to enter a learning situation more or less at will, at the time and place he chooses. The software which can be presented by new devices is often the visual or auditory counterpart of the printed word, and can have much the same permanency and transportability. This is significant in these days while educational practice is facing more and more the problems of large numbers, and educational theory is increasingly indicating the desirability of independent and even individualized learning processes.

(4) Fourthly, media can be used to promote interaction in the teaching and learning process.

By a reciprocal process they become more integral to the teaching and learning process. There are educational innovations like programmed learning, Keller plan etc. in which the media are integral to the teaching—learning process.

Future Trends

There are at least two general trends of the socio-cultural revolution through which we are passing, that relate to current developments in instructional technology. These are the accelerating rate of change occurring throughout our society and the so-called explosion of knowledge. The basic responses of instructional technology reflected primarily a concern with technical accomplishment. Relatively little substantial progress has been made toward providing adequate solutions to the whole set of problems involving what to teach, to whom and how. This situation is due to the dominant physical science concept of instructional technology, compared with a behavioural science concept. In addition, there is the prevailing mode of thinking among educational practitioners as to how professional knowledge is produced and how it should be evaluated. Unless these problems are recognized and solved, instructional technology may be unable to cope with the educational challenges of the present or the future.

The physical science concept of instructional technology usually means the application of physical science and engineering technology, such as motion picture projectors, tape recorders, television, teaching machines etc. for group presentation of instructional materials. Characteristically, this concept views the various media as aids to instruction and tends to be preoccupied with the effects of devices and procedures, rather than with the differences of individual learners or with the selection of instructional content.

The historical development of the physical science concept of instructional technology seems to have been relatively little influenced by educational needs or psychological theory in relation to the design of instructional delivery systems or experimental media research.

Presently there is an emerging view that an applied behavioral science approach to the problems of learning and instruction is fundamental to instructional technology. Thus the basic view of the behavioral science concept of instructional technology is that educational practice should be more dependent on the methods of science as developed by behavioral scientists.

Educational technology must be considered as the process of applying relevant knowledge to the practical purpose of instructing students'. The role of hardware is only part of the broader process of instructional design. As behavioral science begins to play a significant role in instructional practice, the design of instruction will change in four main areas:

(i) First, objectives will be defined after analysis of the relationship between subject matter content and student behavior.
(ii) Second, pre-instructional behavior will be diagnosed in terms of the learner's readiness, aptitude, and achievement.
(iii) Third, materials and methods of instruction will be selected and developed in relation to both pre-instructioal behavior and the desired target performance by the learner, as well as in relation to the intrinsic characteristics of the subject matter.
(iv) Finally, the evaluation of the students' performance will be accomplished through criteria which are directly related to the objectives and tasks specified for any particular instructional situation, rather than to norms which provide comparison to performances by other students.

These changes will, in turn, lead to four significant modifications in the way schools operate. First the teacher will become more involved in managing the progress of the individual student. Next, this increasing focus on individualized instruction will lead to change in school organization and practice. Also instructional materials will be more carefully evaluated in relation to instructional objectives and effectiveness. Lastly, more students will successfully achieve competence in subject matter areas, while tests which measure this mastery will also help measure the general quality of education.

It seems clear that behavioral psychology offers the possibility of organizing and developing instructional programmes on a more rational, measureable, and presumably more effective basis than heretofore. Thus the 'process' of educational technology can be used to design instruction that is based on an analysis of the nature of the 'content', the nature of the 'learner' and the nature of the 'delivery system'.

Some Problem Areas

The crucial instructional problem of our time is to improve and develop a science and technology of instruction. It may well be that the men who will cross the bridge from philosophy to psychology to technology will be catalytic agents of a kind, perhaps called instructional technologists or educational designers, who will bring about the needed cross-fertilization of the knowledge and skills of educational practitioners, subject-matter scholars and behavioral scientists.

Also, there are both theoretical and practical problems that will probably require broad programs of research and devevelopment before they can be solved. This is especially true in regard to the relationship between different kinds of learning tasks and different kinds of instructional strategies and modes. A related problem is the relationship of different kinds of learners and different instructional strategies and modes.

Evaluating the products of the process of educational technology poses another set of problems. Obviously, teachers will have to develop new criteria for evaluating new kinds of programmes, especially those designed to individualize instruction through increased emphasis on self-instrutcion.

The basic proolem underlying the utilization of technologically-based instructional materials is a serious lack of knowledge and understanding of educational technology. In order to use effectively the products of educational technology, teacher must first understand the process. Teachers may have to be retrained to prepare them in this process.

There are also some philosphical, psychological and even emotional problems in this context. There is, for example, the widespread feeling among teachers and parents that technology, by which they usually mean machines, will dehumanize education. Secondly, there is among some educators a deep-seated fear that technology threatends their economic security. A third source of hostility toward technology stems from the fact that educational technology tends to make instruction highly visible and to stress measurable results.

These fears and anxieties must be reckoned with. Intrinsically, computers are neither more nor less dehumanizing than text books. Teachers need to be convinced that technology will not, and cannot, replace them (although any teacher who can be replaced by a machine deserves to be replaced!) but that it will change their role; it will, in fact, better focus their attention and time or those vital areas in which they can and should make their maximum contribution, viz., in the human relationship between teacher and learner and in the development of higher level intellectual skills in their students.

Concluding Remarks

It may be noted that Instructional Technology has been defined as referring to the systematic design and implementation of various technological devices that supplement the human instructor.

To start with, Audio-Visual aids such as Tape/Slide, Tape/Picture and Video cassettes are economical media with considerable scope for application. These can be used by a teacher for a number of different reasons, conscious and unconscious. Some of these reasons may be:

—to improve communication
—to add interest (or conversely, to relieve boredom)
—to gratify the teacher's liking for making and/or using aids
—to increase the motivation of the student
—to increase the motivation of the teacher.

The Tape/Slide or Tape/picture can be effectively tried in the laboratory classes as well.

Much break-through has not been made yet in most of the engineering colleges in India. There should be a deliberate attempt to popularize the use of media in educational practice. Engineering Education system is certain to become more effective with the use of media and innovative methods of their utilization.

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Teaching the American-Indo China War on the College Level: An Interdisciplinary Experiment*

JONATHAN GOLDSTEIN

West Georgia College is a 6,000+ student graduate and undergraduate unit of the state university system of Georgia. In November 1983, Albert Hanser, chairman of the West Georgia history department, proposed to Arts and Sciences Dean Richard Dangle that, for the first time, West Georgia offer a course exclusively on the history of the American-Indochina War.[2] It would cover not only Vietnam, but also Cambodia during the 1970 American invasion as well as Laos, possibly the most heavily bombed country in world history.[3] Hanser further suggested to Dangle that the war be taught in interdisciplinary fashion, similar to the way in which West Georgia had previously taught a course on World War Two. Instruction would be by six professors representing the academic fields of military history, political science, sociology, United States diplomatic history, French history, and East Asian history.

Interdisciplinary, but heavily loaded with historians. While consensus would have to be reached among the six professors on the choice of an overall text, each would have the leeway to include lectures, readings, exam questions as well as movies reflective of his or her particular point of view. As Robert Elegant, who reported on Southeast Asia for twenty years, has written in the British magazine *Encounter:* "Vietnam was determined not only on the battlefield, but on the printed page, and above all, on the television screen."[4]

The educational objective of this interdisciplinary approach was to expose each student, by the end of the academic quarter, to a variety of scholarly and media perspectives on the war's causation, course and historical significance.

The Dean approved the Chairman's conception of the course. Both

administrators then created the organization for the course and the means for its widest appeal to students.

As with the interdisciplinary World War Two course, the Dean authorized generous funding for the procurement of audio-visual materials. Because of the volume and vagaries of the audio-visual equipment involved, the class was held in the campus television station with a technician in attendance.

To maximize attendance, the Indochina class, like the World War Two course, was crosslisted for registration purposes in the history, political science and sociology departments. Students in each of these departments could thereby fulfill their major or minor requirements. In history and sociology, the course was crosslisted on both graduate and undergrad levels. All students would share the same in-class experience; Grad students, however, had to write additional essays on the midterm and final exams.

Another way to attract students was scheduling the class one night a week for four and a half hours per session for eleven weeks. This schedule attracted graduate students who were public school teachers who could commute long distances not more than one night a week. A four-and-a-half-hour ordeal seemed pedagogically unsound but multidisciplinary lectures and visual material diversified each session. Enrollment of nearly forty in an upper-division course was good by West Georgia College standards.

The Course Itself

The faculty who were selected by the history department chairman to participate in this interdisciplinary pilot course represented a diversity not only of disciplines but also of political perspectives. The military historian previously taught at National Defense University, received funding from the politically-conservative Heritage Foundation, and served as military adviser to Georgia's "New Right" Congressman Newt Gingrich. In contrast, the political science professor was a military-cadet-turned-conscientious-objector during the Indochina War. His pacifism had led him to a career as an anti-draft counsellor and to a legal conviction, subsequently overturned with compensatory damages, for participating in an antiwar protest in Washington, D.C. The sociology professor had completed a tour of duty in Vietnam as a medical technician and later did graduate and post-doctoral study of military socialization patterns, specializing in such customs as the "fragging" of officers. His academic study and his personal reminiscences of Vietnam enlivened the course. The East Asian history professor had published, in the *Annals* of the Southeast Conference of the Association for Asian Studies, a history of protest against American usage of chemical weaponry in Indochina.[5] Both he, the United States diplomatic historian and the French historian, were characterized as "mainstream liberals" by the military historian who was responsible for organizing the course.

This wide array of disciplines and ideologies guaranteed intellectual excitement for the eleven weeks of the course. The extremists squared off regularly with each other, as with students of equally diverse and often

shifting opinion. A summary of several nights of class discussion suggest some of the excitement generated by this interdisciplinary approach:

NIGHT ONE: East Asianist lectured on Indochinese geography, climate, and ethnicity, and then screened the travellogue: *Vietnam. An American Journey.* This movie depicted a journey of Americans in the early 1980s on the scenic highway between Hanoi and Ho Chi Minh City. In addition to the topography, much footage was devoted to alleged "evidence" of US/ARVN bombing and human "destruction". Reference was also made to the 1967 Bertrand Russell International War Crimes Tribunal, which cited the United States for committing "atrocities." No sooner was the film finished than the military historian took the podium and criticized what he saw as the "bias" and "one-sidedness" of the International War Crimes Tribunal. He described unpublicized NFL and DRV destruction and killing in Hue during "Tet". After hearing these interpretations, the students not only questioned their professors, but argued with each other and beginning to clarify their own viewpoints and prejudices.[6]

NIGHT SEVEN: Topic: "The Homefront." The political sclentist gave personal reminiscences of his experiences with the military and his stateside antiwar activism. He and the East Asianist traced the shifting attitudes in Congress from the 1964 Tonkin Gulf authorization for intervention in Indochina all the way to the 1974 Edward Kennedy amendment which barred the use of Defense Department funds in Southeast Asia. After presentations by the two professors, the movie *The War at Home* was screened—a documentary about the ideational transformation of Madison, Wisconsin, in the 1960s due to the Indochina conflict. Based on both lectures and film, students then discussed such questions as: How did the general social and moral climate of the nineteen sixties provide fertile ground for the antiwar movement? How was the antiwar movement indebted to the methods and aims of the civil rights movement? What is the meaning of the phrase "credibility gap?" Were antiwar organizations effective in producing governmental responsiveness and change, or were they mere outlets for individual existential protest? Why did many Indochina veterans join the peace movement, and what new strengths did they bring to it? Could the events of the Vietnam era happen again? The evening ended with a discussion of the mining of Nicaragua's harbors, with the military historian defending the act, and the political scientist and "liberals" citing World Court condemnation of the act and favoring peaceful negotiations as an alternative.

NIGHT EIGHT: The military historian and East Asianist introduced and screened the Public Broadcasting System's (PBS) film *Cambodia and Laos.* In subseqeunt discussion, the military historian defended the "legality" of the 1970 United States invasion of Cambodia on the grounds of the right of American troops to defend themselves, and also on the

grounds that other outsiders, the DRV, were also present in Cambodia. Students and "liberal" faculty challenged the right of the United States to arrogate unto itself the decision to intervene in a sovereign state without international sanction. That evening's discussion, and subsequent evening', ended with all sides drawing analogies to current events in Nicaragua and El Salvador.

A Personal Evaluation of the Experiment

With benefit of student and peer evaluations, certain generalizations can be drawn regarding the relative success of the course.

The military historian who coordinated the course was acclaimed—by students and faculty alike—for both indefatigably expressing his own viewpoint and allowing other faculty and students equal time.

From my viewpoint, among his most critical tasks was achieving consensus among faculty on textbook and movie selection. This may be an inherent weakness in the interdisciplinary approach. The lowest common denominator which all faculty could agree on was the Karnow text and the related Public Broadcasting System's series *Vietnam. A Television History.*[7] As Karnow is somewhat weak on the Nixon years, on the air war, government officials' and upper military reminiscences, my personal choice of texts would have been George Herring's highly interpretative *America's Longest War* (1979) and Peter Poole's survey *Eight Presidents and Indochina* (1978).[8] I would also have included written, filmed and recorded audio commentary by ordinary soldiers, P.O.W.'s, and non-military stateside protestors.[9] Such choices for the entire course were impossible given the diversity of opinion among the instructors. Nevertheless, each instructor could maximize the latitude allowed him within the time frame of his own presentation. Each could choose which (if any) PBS program he wished to screen, plus other written, filmed or recorded audio materials reflecting his particular point of view. Although no additional full length books could be assigned, further readings were suggested by instructors in the course of lectures. Of the thirteen PBS programs, only nine were actually chosen by professors to be shown (2, 3, 4, 5, 6, 7, 9, 10 and 13). Thus students received a lowest common denominator overview from Karnow and portions of the PBS series, plus divergent views of the war from each individual professor's presentation.

The organizers of the class already know that the course susceeded in communicating the intensity of emotion and divergent viewpoints which still characterize American debate over the Indochina war. Most students came away more convinced than before of the complexity of a historical problem and more respectful toward and better informed about divergent historical analyses of Indochina and even of Central America. One possible improvement in attaining this objective the next time the class is offered would be to give each student at the end of the course a bibliography of additional readings, so that he or she could further delve into problems which continue to intrigue him or her.[10] We also have yet to find out if there was any deriva-

tive impact of the intellectual excitement generated in the Indochina course in terms of subsequent student enrollment in other courses, such as political science, United States diplomatic history, or Asian studies. Were students sufficiently inspired by the Indochina class to want to expand their knowledge through additional coursework? Has there been any derivative impact on student participation in such extracurricular activities as the college debating team or campus political organizations?

A question which the organizers of the course are still debating is whether this was an interdisciplinary course as much as it was a multi-argued course. Were arguments resolved, or were students simply faced with different partisans re-arguing old issues without any resolution in sight? Students and faculty departed the course with a consensus on a single issue: the undeniability of human suffering and material loss caused by United States involvement in Indochina. It would be difficult to cite any other historical point which the instructors agreed as objectively true.

One shortcoming which may have derived from this larger failure to agree on objectives was the lack of a substantial mechanism for testing student learning. The methods for evaluating student performance were experimental and improveable. Midterm and final exams were cooperatively constructed and graded in the sense that, for each exam each instructor contributed ten objective questions and one essay question pertaining to his specific presentations and assignments. The objective questions were graded by a teaching assistant, and the essays individually by the professor who had assigned them. There was no consensus by the instructors on questions.

While exams could be prepared and corrected in this divided fashion, no provision at all was made in the course for students to write summaries at home of the visual materials they had experienced in class. Such summaries would have been especially useful value clarification exercises following the controversial movies. But which instructor would have corrected them? In the case of majors and minors, would it have been the professor representing the student's department? What about students whose major or minor departments were not represented on the teaching team? Nor was time allocated for student research projects. Again, which instructor would have approved the topics and guided and graded the students?

Hopefully, the next time this course is offered, a mechanism can be worked out for students to clarify their thoughts through take-home writing and research assignments, and more substantive mechanisms can be devised for testing student learning from the course.

In summation, the goal of the faculty who organized the course was to give each student an appreciation for the complexity of America's longest war, and information one of the cataclysmic events in American history, whose aftershocks may reverberate in American society into the twenty-first century. This goal was basically achieved. The interaction among faculty brought on by a team-teaching approach was a source of personal pleasure and learning for my colleagues and for myself. I would be most grateful for specific criticisms and suggestions for improving the course.

Footnotes

1. This paper was prepared for delivery at the Annual Meeting of the Southeast Conference of the Association for Asian Studies, Durham, North Carolina, January 19, 1985, as part of a panel on "Teaching the Vietnam War." Criticism of this paper by Professor Charles Debenedetti of the University of Toledo and by Southeast Conference colleagues is gratefully acknowledged. Research for this paper was funded in part by the West Georgia College history department. The author also wishes to thank Beth Currey, typist of the West Georgia College Vice-President's office, for secretarial assistance.

2. The term "American-Indochina War" is used because what is commonly referred to as the "Vietnam War" transcended the borders of Vietnam. The war in Indochina had been going on long before Americans beeame actively involved in fighting the Viet Cong (NLF) and the North Vietnamese (DRV). One can date the conflict from the 1930s, July 1940, 1946, or even 1954. It did not end when the United States left Vietnam in 1973 and Thailand in 1976.

3. Letter: Major Earl H. Tilford, Jr., Department of the Air Force, Headquarters Air University, to the author, January 7, 1985. It should be pointed out that, fundamentally, the United States bombed the country of Laos, not the people. Most bombs fell on the Ho Chi Minh Trail, well away from the populated Mekong Valley region. The tonnage of bombs soared when the United States began flying up to thirty B-52 sorties a day to drop bombs in one mile-square boxes near Tchepone and near the Mu Gia and Ban Kari infiltration passes. This boming did little more than alter landscape and move dirt. Bombing, like any expenditure of energy, must be focused to be effective. Few villages were destroyed by the bombing, the principal ones being Tchepone, Xeing Kuong, Xeing Kuongville, and Ban Ban. All of these, particularly Tchepone, were North Vietnamese transhipment points and had ceased being "villages" in the normal sense.

4. Robert Elegant quoted in John Corry, "TV: The Tet Offensive in Vietnam," *The New York Tiles*, November 8, 1983, p. C15.

5. Jonathan Goldstein, "Indochina War on Campus: The Summit/Spicerack Controversy at the University of Pennsylvania, 1965-67," *Annals* of the Southeast Conference of the Association for Asian Studies, (1983), 78-99.

6. It should be noted that these interpretations do not necessarily conflict. Statements that "the United States committed atrocities" and "communists committed atrocities" can both be true and in no way inconsistent.

7. Stanley Karnow, *Vietnam. A History* (New York: Viking, 1983).

8. George Herring, *America's Longest War. The United States and Vietnam 1950-1975.* (New York: Wiley, 1979); Peter Poole, *Eight Presidents and Indochina* (Malabar, Florida: Krieger, 1978).

9. For titles of fiction and movies, see the following papers all of which were presented at the Annual Meeting of the Organization of American Historians, Los Angeles, April 5, 1984, as part of a panel on "Teaching the Vietnam War"; Sandra Taylor, "Vietnam through a Different Lens: Fiction, Memoirs and History"; Terry Anderson, "Popular Music and the Vietnam War"; and David Culbert, "Vietnam on Film and Television." See also: Martin Novelli, "Teaching the Vietnam War with Film (and Literature)." Paper presented at Duquesne History Forum, Pittsburgh, November 8, 1984, as part of a panel on "Teaching the Vietnam War."

10. As a possible bibliograohy, see: James Fetzer, "The United States and the Vietnam War: A Selected Bibliography," *American -East Asian Relations Newsletter* 4, no. 3 (December, 1984), 47-52.

Appendix

Course Outline for Class on American-Indochina War

Eleven class meetings of four-and-one-half-hours each were held. Readings in the Karnow text were assigned on each topic.

Night One

General introduction to class by coordinator (military historian); East Asianist's introduction, screening, and discussion of travellogue/documentary *Vietnam. An American Journey*; East Asianist's lecture on Indochinese geography, climate, ethnicity, and early modern history up to arrival of French.

Night Two

French historian lectured on French involvement in Indochina and the 1946-54 French-Indochinese War; screened and led discussion of *The First Vietnam War (1946-54)*, program two of PBS series.

Night Three

United States diplomatic historian lectured about the roots of American involvement in Indochina War; screened and led discussion of *America's Mandarin (1954-63)* and *LBJ Goes to War (1964-65)* programs three and four of PBS series.

Night Four

Political scientist lectured on NLF/DRV forces, and role of ideology as a motivating factor; he then screened and led discussion of *American Takes Charge (1965-67)* and *America's Enemy (1954-67)*, programs five and six of PBS series.

Night Five

Midterm exam collectively prepared and graded by teaching team.

Night Six

Military historian discussed "Tet" and screened and led discussion of *Tet 1968*, program seven of PBS series.

Night Seven

"The home front". Political scientist recounted his experiences with the military and as a conscientious objector; led discussion of those themes; and military historian presented opposing view point. East Asianist lectured on domestic opposition to the American-Indochina War with respect to shifting attitudes within Congress; he and political scientist screened and led discussion of documentary film *The War at home.*

Night Eight

Military historian and East Asianist screened and led discussion of *Cambodia and Laos*, program nine of PBS series.

Night Nine

Sociologist lectured on socialization patterns within the United States military; screened and led discussion of *Peace is at Hand (1968-77)*, program ten of PBS series.

Night Ten

Screening of *Legacies*, program thirteen of PBS series; discussion by entire faculty and students under supervision of military historian (course coordinator).

Night Eleven

Final examination collectively prepared and graded by teaching team.

Student Activism in British India

RAJENDRA PANDEY

The British educational system[1] in India developed chiefly in response to the need to solve the basic paradox of colonial powers: how to exploit India to the full without endangering its traditional modes of control and integrations.' ? The British colonialists found its efficient solution in the use of middlemen[2]. These middlemen, they thought, will serve as a link between the traditional and modern structure. Then the question was: How to produce the middlemen? Education was perceived to be the best institution for the purpose. The educational policy, we would see, was shifting, depending on the calculation of the British administrators. Naturally, therefore, the British educational policy in India was debated much in the 18th century and before.[3]

We get two radically opposed schools of thought about the kind of educational policy to be adopted in British India: the Paternalist and the Liberal Utilitarian schools of thought. These two schools differed much with regard to the extent and content of education. The Paternalist school favoured mass education only at the elementary level, "to furnish the peasant with merely a sufficient degree of literacy to enable him to understand the village level record and to defend himself against the viles of the moneylender."[4] The British rulers opposed the creation of an educated elite in India who might jeoparadize their position. Suspecting so, the Paternalists maintained the traditional modes of socialization and allowed only a weakened form of Western tradition. As against this, the Liberal-Utilitarian school argued in favour of creating a small Anglo-Indian elite, well-versed in Western tradition, for, the small number of elites was perceived to be incapable of jeoparadizing the British power. Instead, this elite was thought to be useful, because it would serve as a middleman, a link between the British rulers and Indian masses and provide India with an indigenous leadership.

In the light of these contradictory philosophies, the British educational policy in India has shown three dialectical trends of evolution.[5] The *first stage* continued upto 1835. The British followed Paternalist policy of education and encouraged traditional learning, while simultaneously creating a few elites through a few elitist schools in the English tradition, including some missionary schools. Here the main motif of the British colonialists was to maintain the traditional culture and to educate a few Indians to assist in government administration.

The *second stage,* which continued from 1835 to 1853, may be labelled as Anglicizing stage. Hereinafter the liberal utilitarian policy of education prevailed. The aim of education at this stage was perhaps most clearly declared by Thomas Babington Macauley in his famous "Minute on Education" in 1835: "We must at the present do our best to form a class who may be interpreter between us and the millions whom we govern...". Macauley thought that this group had to be "Indian in blood and colour but English in taste, in opinions and morals and intellect". Obviously, then, the important aim of education became to produce a mediatroy group of Indians from among the upper castes. Macauley advanced the 'filtration' theory by which he meant that if the education was provided for the upper classes, it would gradually seep down to those below.[6] This method of education would create a class of elite who would play the mediatory role, and their number would grow gradually because the process of filtration of education will be slow. Their purpose of exploitation would be served well as educated elite would control the masses and help them exploit the country. At this stage, the British rulers went a step further to absorb the educated elites into satisfactory positions in the administration. This, they thought, will ensure better loyalty of Indian elites to the Raj. But, as we know, many actions bring unintended consequences.[7] Their this action became dysfunctional in two ways. First, the distance between the elites and the masses widened. This went against the avowed purpose of useful mediatory roles.[8] The mediatory role of the elite group diminished to certain extent. Another significant consequence of the Anglicized policy of education was that by the middle of the 19th century, the Indians began to interpret their traditions in accordance with modern terminology. The religious renaissance (Brahma Samaj, Arya Samaj, the Ramkrishna Mission) began to be transformed into national movements. The British rulers have now to confront a three pronged problem. One of rising national movement, other of diminishing mediatory role of the elite, and the third of the protection of ancient Hindu culture by putting a check to the threatened Europeanization of the country.[9] All this forced them to modify the Anglicized policy and to introduce a new policy of education.

And, this brings us to the *third stage,* the Anglo-Vernacular stage, which formally began in 1854 with the issuance of Sir Charles Wood's educational despatch (later described as the Magna Carta of Indian education). In theory, at least, educational opportunities were now extended to all classes by the use of their own languages. The students were expected to be bilingual and

bicultural.[10] The British adopted this vernacular policy of education to contain all the three problems by creating more mediators who will be familiar with the traditional culture of masses, by mitigating rising Western ideals and aspirations, and by pacifying Indian demands for self-identification in the wake of growing national movement. However, in practice, the mixed type of education could not be imparted; it remained almost completely Western in style. The schools were manned either by Western scholars or by highly-Westernized Indians. The Indians used Western cognitive-cultural tools—romanticized viewpoint of European Orientalist—in order to reconstruct their traditional concepts.

In the light of the above educational policy of British India, we may now look at the growth of higher education. Western style higher education has a short history; it is barely one hundred seventy years old. The colleges were started in 1817 by the European missionary elements and a small group of Westernized Indian middle class in the cities.[11] While the higher education was largely British in origin, it was influenced by men like Ram Mohan Roy in Bengal, Dadabhai Naoroji in Bombay, B.G. Tilak in Maharashtra, among others. Higher education got a firm foundation when three universities at Bombay, Calcutta and Madras were established in 1857. Patterned on the University of London, these universities began as affiliating universities. Gradually, the number of colleges in British India increased.[12] The education was confined to cities and to the sons of westernized middle and upper class. The students were small in number and relatively more homogenous in social class and caste. Most of them were career oriented vying with each other to compete in the civil services. Many realized that the key to success was in Western-style higher education.

The rising national movement resulted in the establishment of All-India Congress Organization in 1885 which marked the first symbolic crystallization of Indian nationalism. It was felt by the British rulers that educational institutions had served the negative functions; they have nurtured forces which threatened the British position; and the purpose of mobilizing loyalty and support for British dominance has been defeated.[13] Consequently, two educational commissions, the Education Commission of 1882 (Hunter Commission) and the University Commission of 1902 (Raleigh Commission) were appointed.

The pressure for education increased with the policy of absorption of educated Indians in administration. The educated got jobs in the professions and industrial and commercial enterprises. The student population increased five-fold in a quarter of the 20th century and the number of universities doubled during the same period. In 1921, there were almost 60,000 students in Indian Colleges and universities and by 1936 this number reached to 120,000.[14] However, the educational system continued to be influenced strongly by British models.

By 1925, Indian higher education felt a change; some educational institutions devoted to Indian national development were established.[15] In the course of expansion of education, the British educational system in India

adopted various combinations of policies[16] regarding admission, academic content, and academic standard: (1) raising versus lowering of academic standards; (2) using ascription (caste and religion) versus achievement or merit as a criterion for university admission; (3) developing traditional versus modern education; and (4) concentrating on general versus vocational education.

Student Activism

In what has gone before, we have provided the educational context, policy, and the growth of higher education in British India. We would use this description as springboard for the analysis of student activism. The student activism in British India can be analysed into three stages, beginnings; drive towards maturity; and apex of student activism.

The Beginnings: For a long time in India's history, students were concerned primarily with academic life and with socio-cultural affairs. They chose to act as middleman between the British and the masses. They gained familiarity with the cultural, institutional, and linguistic codes of both the British and native social systems. This helped them to interpret to the people of their own country in the terms of the British Raj. This helped the colonialists to exploit the country by an army of educated middlemen thus created. In the long run, the colonial powers came to depend more and more on these mediators. In course of time, these mediators became an important power base of the Indian national movement under the leadership of Gandhiji and others. However, the student activism was at its nadir for a long time in the history of British India.

The paternalistic policy of education ruled out the creation of educated class. So the higher education remained at its lowest ebb. The liberal-utilitarian theory of current needs did produce some elites, but it all ended in creating a class of mediators. The process continued till 1853. It was in 1854 when Anglo-vernacular policy was adopted, and in 1857 when the university system in India was first established. It was here where educational opportunities were in theory extended to all classes by the use of their own languages. But the growth of education was slow, hence student activism was minimal.

The campus was quiet during all these years. The students were Sadhus than philistines.[17] Even the Indian National Congress was not that much dynamic in its early years, for, it was manned by Western educated middle class, trained to be loyal and not given to the political agitation.

However, with the passage of time, the Congress grew more militant. This had impact over students. The first agitation by students was during the 1880's when the agitation for holding Indian Civil Service examination in India instead of England was made. This found the backing of the Indian National Congress. But, then, this was an agitation of career seekers and loyalists.

By 1900, some student organizations were founded. But even these student organizations were concerned with educational and social matters; the politics was not the main concern of them.

By 1905, the awakening to political issues becomes visible. It surfaced in Bengal where a Bengali terrorist organization attacked the British governor-general to show their opposition to British plan of partition of Bengal. And, the student agitation succeeded then in forcing the British to give up this plan. Revolutionary crimes were committed by students and teachers in schools and colleges. In Maharashtra, students engaged in national movement organized by B.G. Tilak. Note that it was only a relatively small minority of students which was involved in politics; the students in general kept themselves out.

In the beginning of the 20th century, a number of organizations were formed which provided forum for student activism. One such organization was the Students' Brotherhood in Bombay founded in 1890s.[18] This organization opened the membership to women. The debates and discussions took place in colleges.

Prior to 1930's, the student population was homogenous; only the urban and upper classes had access to the higher education. The leaders of the early nationalist movement in India were educated in Western style. Many of them were educated in England where they were subjected to the ideas of Fabian socialism and British liberalism. All this provided a stimulus for political involvement.[19]

Drive Towards Maturity: The 1920's brought political and educational changes. At the educational level, there was increase in both educational institutions and students. The new colleges had to confront financial hardships, problems of adequate staff, and lowered standards of education. The students had to face increased competition for jobs, pressures of adjusting their modern values to a largely traditional society, and an oversupply of university graduates for the jobs available. At the political plane, the Indian National Congress turned into a mass movement under the leadership of Mahatma Gandhi. The congress leadership gave call for speedy independence for India which appealed to the students. Furthermore, as the leadership of the Congress was in the hands of college trained intelligentsia, it was much more appealing to students.

Gandhiji launched Non-Cooperation Movement in 1930. This was the first political movement in which students were involved in large numbers. Youth leagues were formed in educational centres to coordinate student efforts.[20] In September, 1920, the Congress, at its annual conference, passed a resolution calling for "....gradual withdrawal of boys and girls from schools and colleges and earnest attempts to establish National Institutions... By a National Institution is meant any Educational Institution that does not receive aid from government, is not in any way controlled or inspected by government, and is not affiliated to any university established by government."[21]

The Congress call has magic-like effect on students. Most major educational institutions went on strike. National (anti-British) educational institutions were established in the major cities. Instruction was given in Indian languages in the National Colleges and Gandhian ideology was inducted in the curriculum. However, many students returned back to their regular classes once the beat of the movement cooled down.

The Non-Cooperation movement's major achievement was that it stimulated the foundation of a national student federation in India. The first annual All-India College Student Conference took place in Nagpur in 1920. Likewise, other annual gatherings took place thereafter. All India College Student Conference had the support of Congress leaders like Jawaharlal Nehru, Subhas Chandra Bose, and Lala Lajpat Rai, among others. Gradually on, regional student federations were formed in Panjab, in Bengal, and in other parts of the country, for instance, the All-Bengal Students' Association, the Bombay Presidency (provincial) Students' Federation. The main concern of these student organizations and their conferences was militant nationalism, the Marxism and socialism. The student movement became the most radical element in Indian political activities at this juncture It was, in fact, a warning to the British to leave India and a fast support to the nationalist leaders. While a minority of the students was politically active in the 1920's, by the 1930's, a large number of students was attracted.

Ideological politics emerged during this period. The study cireles read the works of Marx and Lenin and were influenced by Fabian socialists. The study circles taught both agitational tactics as well as ideology. The Congress Socialist Party was formed during the 1930's which had strong influence on students. The student movement was influenced by events in society, such as the Simon Commission Agitations, the Civil Disobedience Movement (1930) and other local issues. The ideological atmosphere had also deep impact on student movement. The students boycotted the shops, embraced *Swadeshi* things, cut the telephones, and did all what they can do to paralyse the British administration. The students were enthused by Gandhi, but they never imbibed fully Gandhian concept of non-violence. A large number of student was dismissed from their colleges and failed. The impact of Gandhi was so deep that when there was no political agitation, students involved in social service among the slumdwellers and villages. The radical nationalists now began to depend on the student as allies in their efforts.

These agitations of the early 1930's culminated in creation of the All India Students' Federation (AISF) in 1936. The AISF had the blessings of nationalist and radicals like Jawaharlal Nehru, Subhas Chandra Bose, Jayaprakash Narayan, among others. Within a short span of two years, the AISF was able to claim one thousand affiliated organizations and fifty thousand members.[23] The AISF brought out a journal entitled, *Students' Federation*, which was circulated throughout India. It was here where students of different ideological orientations—Gandhian, Socialist, and communist—worked in harmony. Its annual meets attracted large number of students and many

top leaders of the day.

Besides the AISF, a number of other important trends were visible in the student community. The British, following the divide and rule policy, were able to create chism between students. The student community was split into Muslim and non-Muslim community. The Muslim students were influenced by Mohammad Ali Jinnah's call for a separate Muslim State on the Indian subcontinent and joined Muslim League's All-India Muslim Students' Federation which was founded in 1937-a year after AISF. This organization was not active in the independence movement, but defended Muslims. The Pakistan was eventually carved out of India.

In reaction to the separatist sentiment of Muslims, the Rashtriya Swaymsevak Sangh (RSS) was founded in the late 1920's. This anointed to anti-Muslim and anti-Christian feelings among Hindus and to militant Hindu nationalism. The RSS was able to attract many students, particularly in the smaller colleges. The RSS suffered a set-back in 1948 when Gandhiji was assassinated by a RSS member. The Hindu Federation, founded in the 1930's, was similar to RSS in ideology and had a greater appeal for college students.

The secular minded leftists were opposed to the creation of the RSS, and to counter it, they formed Rashtra Seva Dal (RSD) in early 1940's. It aimed at overcoming the communalism of both Hindu and Muslim extremist. But it was strong only in Maharashtra.

By the close of thirties, the students became involved in a variety of agitational activities. Strikes were more frequent and thousands of students served short jail sentences for their participation in freedom struggle. Many students left schools to work full-time in the nationalist-movement.

The factionalism creeped in into the All-India Student Federation in 1940. The socialists, communists and Gandhian parted company. The communists supported the British War efforts when the Soviet Union, entered World War II in 1940. The communist domination on AISF was weakened. The nationalists organized the All India Students' Congress in 1945 which continued its struggle against the British and opposed the communists.

The Apex: The most militant and organized period of the student activism came during the 1940's. To be more exact, the apex of student activism was visible in 1942 'Quit India' movement. The Congress gave a call for an all-out effort to drive the British from India. At this time, the students came forward and most of India's colleges were closed for a long period. Even those students, who did not involve in politics earlier, worked for Congress and participated in daily demonstrations, in sabotage campaign, and in disruption of British administration[25]. They replenished the old leadership when the latter were arrested and mediated between underground leaders and movement. They published illegal newspapers and even operated clandestine radio station. Although student militancy largely confined to cities, their movement turned into 'national liberation movement.' The

students continued their militancy until the end of independence struggle in 1947.

Summary and Conclusions

In what preceded, we tried to analyse the historical and social context of student activism in British India from Marxian angle. Our discussion was divided into two parts: the British educational policy and growth of higher education and student activism in pre-1947 period.

Two main trends of the British educational policy and higher education were discerned: Paternalistic and Liberal-Utilitarian. While former favoured mass education at the elementary level, the latter recommended elementary education for masses but higher education for the few to create a small Anglo-Indian elite. Both these policies were the result of the calculations of the British to exploit the country.

The education in British India developed in three stages: the traditional learning while simultaneously developing a few elitist school; Anglicized education; and Anglo-Vernacular education. The British educational system in India was full of dilemmas; it gave emphasis on different aspects of, education. The main contradictions were between raising and lowering of academic standards; admitting students on the basis of merit and ascription; giving traditional and modern education; and concentrating on general and vocational education. The British educational policy thus developed in a dialectical process; first in response to paternalistic theory, then to the liberal-utilitarian theory of current needs of developing a class of mediators, and lastly to changing conditions in India, especially rising Indian nationalism The same mediatory class, which helped the British in its early stages turned against it later on and eventually shaped the Indian national movement ending in liberation of India from the hands of British. It is in this context that the student activism in British India ought to be seen.

The student activism in the pre-independence period began with the role of mediators and loyalists to the British which grew into a militant movement, forcing the Britishers to leave the country.

The downswing and upswing in the student activism in the British India can be attributed to a number of causes. There was downswing in the student activism because the higher education was the preserve of the few; the masses were given merely elementary education. The paternalistic educational policy did not permit student activism. With the liberal-utilitarian educational policy, relatively more number of youth with higher education could be produced. Since the aim of the Britishers was to create a class of educated persons who can cheat their own people and remain loyal to them, they succeeded in short run in their objectives. Such students were interested in seeking career and remained interested in educational work. They did serve the British purpose. When the Britishers switched to Anglo-vernacular policy at the call of leaders of religious renaissance and social reform, student activities took a different turn. The universities and colleges produced a

large number of students. Meanwhile the Indian National Congress involved the students in the struggle for independence. The leadership of Gandhiji attracted students and elites alike. And, the students plunged into the war of independence in which they succeeded.

The student community, which was active in all these stages, has a peculiar feature. First, the active students were centred in the cities and towns, the places which served as centres for education and political activities. It was here where students as mediators at early stages and revolutionary at later stages were bred. Precisely put, urban centres served as the seat of student activism. There was near non-involvement of the rural masses. Secondly, the students came from westernized, highly literate, politically exposed of families with upper middle or upper class and caste backgrounds, where they were exposed to western life and ideologies since their early days as their fathers had western education. Thirdly, the students were financially well-off as they belonged to well-to-do families. Being free from serious financial worries during their student career, they could spare themselves for political activities. Fourthly, the student community was small and compact. It was easier for the leaders to organise them. Fifthly, the emphasis in the British Raj was on liberal arts and such students were more concerned with intellectual and political issues.[26] Finally, the student movement was in the hands of academically able students. The intelligent and sophisticated leaders attracted intelligent and academically successful students, insured high level of discussion, and supplied the able young leaders for the nationalist movement.

Following the British educational policy and subsequent educational development, the student activism has macrhed in three stages in a dialectical process. For a long time, there was very little or no student activity because only the elementary education for the masses was recommended in the paternalistic policy of education. In the second stage, students were primarily concerned with academic life, with social and cultural affairs, and with career making. They were, then, preparing to serve as a mediatory class between the British rulers and Indian masses. However, in this process, such students became financially better, acquired high status, and got acquainted with western style of life and thought. Then the campus was quiet. The real beginning of student activism started from 1920 onward. The number of schools and students increased and a large number of student organizations was formed. In this second stage, there was the involvement of students in the independence struggle. Finally, it reached to climax in 1942 with 'Quit India' movement. This shows that the British educational system and the student activism moved hand in hand.

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The Indira Gandhi National Open University: Its Role in Higher Education*

G. RAM REDDY

Education is a vital input in modernisation and development. A democratic society which lays stress on egalitarianism and social justice generates irresistible pressures for education. Any system of education which is elitist and is inaccessible to many becomes incongrous in such a polity. That for long, education in India was not within the reach of large majority of the people is a point which does not need much elaboration. However, what is paradoxical is thatsince independence while there has been tremendous expansion in education it has still left many outside the system, as we shall discuss in this paper.

The UNESCO Commission on Education[1], commenting upon the need and relevance of education, has rightly observed that educational institutions are a decisive factor in training men to contribute to the development of society, to play an active part in life and in properly preparing men for work. Spread of education, therefore, is a necessity both for modernisation and sustaining the democratic polity. For, education brings awareness and makes man "to be himself" and "to become himself". Today the modern communication technology has placed at our disposal several instruments which can be exploited for spreading education and providing quality instruction. It is against this background of necessity of spreading innovative higher education through distance education by making use of communication technology for this purpose, that we propose to describe the role of the Indira Gandhi National Open University.

The Formal System

Realising the importance of education in national development, India has been expanding frontiers of education to provide access to large sections of our society. This is evident from the following impressive statistics. Between 1950-51 and 1983-84, the number of colleges increased from 370 to 5246. During the same period, number of professional colleges increased from 208 to 727 and universities from 27 to 140. The student enrolment in higher education which was 556,000 in 1960-61 increased to 3359,000. Expenditure on education which was little over Rs. 100 crores in 1950-51 increased to over Rs. 5185 crores by 1982-83. Despite such massive expansion, unparalleled in the history of Indian education, it is unable to meet the requirements. In many colleges adequate infrastructural facilities do not exist, standards are low and several of them are non-viable. Thus we find that though there has been a quantitative expansion, qualitatively there are wide variations in the standards of educational institutions.

Broadly, approach to education in India has been mainly through the formal system. As a result, the system has remained inadequate to meet the national needs and has also produced several imbalances. The well known criticisms against the existing educational system are that it is: (a) elitist; (b) rigid; (c) conservative; and (d) is expensive. Obviously such a system would not be able to meet the demands of a changing society. The formal system is based on the following 4 assumptions: (a) there should be full-time teachers to teach; (b) the students must belong to certain age groups and be full-time learners; (c) instruction can take place only in specially earmarked class rooms; and (d) instruction has to be face-to-face. The assumptions are such that the system would leave out all those who cannot fit into them. So long as the system is rigidly following these assumptions, it would be discriminating against those sections of the society which cannot afford full-time learning.

Inadequacies, rigidities and limitations of the formal system have aptly been described by Mr. K.C. Pant in his Statement of Objects and Reasons for the establishment of the Indira Gandhi National Open University while introducing the Bill in the Rajya Sabha. He said: "Despite the tremendous expansion of the formal system of higher education since Independence, the pressure on the system is continuously increasing. Indeed, the system has not been able to provide an effective means to equalise educational opportunities. The rigidities of the system requiring, among others, attendance in classrooms have been a disincentive to many learners. Moreover, the combinations of subjects are inflexible and are often not relevant to the needs of the learners. This has resulted in a pronounced mismatch between the contents of most programmes and the needs of the development sectors".[2]

With a view to meet the demands of higher education, some universities in the country have provided the system of external examinations. Under this system, students are permitted to take the university examinations, if they are otherwise eligible. The university, however, does not take any responsibility either to teach or guide the students. As a result, the students

have to prepare for the examinations on their own or depend upon the tutorial institutions which are substandard and provide cheap and inadequate literature. Dr. (Mrs.) Madhuri R. Shah, Chairman of the University Grants Commission, commenting on this system observed that it is one of the most unreliable and corrupt systems in the country and should be scrapped.'[3]

Correspondence Education

To overcome this problem of demand and make more facilities available, the University Grants Commission, on the recommendations of the Kothari Committee, initiated steps to start institutions of non-formal or distance education in the existing universities. Such facilities, the Committee felt, would equalise educational opportunities, apart from providing education effectively and economically.'[4] The first School of Correspondence Courses was established as a part of Delhi University with jurisdiction all over the country. In 1985, 29 universities are offering educational facilities through correspondence courses. During the last two decades, they have been able to provide educational opportunities to many. However, very few of these Institutes follow the guidelines stipulated by the University Grants Commission and the working of several of them leaves much to be desired.

The correspondence institutes suffer from several limitations. They are[5]:

(1) These institutes are treated as appendages of the conventional universities. They do not have any freedom either in designing their courses or in incurring expenditure. Decision making is totally in the hands of others;
(2) Their courses, regulations regarding entry, examinations, etc., are the same as those stipulated for regular students. Their courses suffer from the same rigidities as those of the courses designed for regular students;
(3) In most institutes, the only method of instruction is through correspondence material;
(4) A majority of institutes do not organise contact programmes;
(5) Most of them do not have facilities of library and laboratories for the correspondence students; and
(6) Competent and qualified teachers feel it infra dig to work in these Institutes. Some times unwanted people from the University departments are posted to these Institutes. As a result, they are ill-motivated to work.

Because of these limitations, the system could not be effective and provide quality education to the people. The position of many correspondence institutes in the formal universities reminds us of the colonial system. Many universities treat their correspondence institutions as colonies; the revenues generated by the latter are ploughed into the former and the unwanted and disinterested academics of the formal system are posted to work with the

latter. Students of history know that this is what happened in colonial system. The net result has been they failed to make much impact on the educational system of the country.

Open University : Early Efforts

Realising the limitations of the formal education system and with a view to use the modern communication technology to spread education, there was a search for alternatives. The establishment of the Open University in U.K.,[6] the first full-fledged distance teaching university imparting higher education,[7] has provided the much needed impetus to the educational planners and policy makers. They began to consider the desirability of establishing such a university in India to mitigate some of the problems confronting the education system. In 1970, which was declared as an International Educational Year, the Ministry of Education organised a seminar on Open University to consider its establishment in the country. An interesting feature of this seminar was that it was co-sponsored by the Ministry of Information & Broadcasting and the University Grants Commission. Professor V.K.R.V. Rao, the then Minister of Education, inaugurating the seminar felt that the Open University using the latest educational and communication technology should offer quality education to a "much larger body of population which remains outside the so called university system".[8] The Seminar recommended the establishment of an Open University in the country and made several suggestions relating to its objects, organisation, finances and methods of work. It also recommended the constitution of a Study Group to work out details before the establishment of such a University.[9]

Following this recommendation of the seminar, the Government of India appointed a eight member Working Group with G. Parthasarathy, the then Vice-Chancellor of Jawaharlal Nehru University, as Chairman. The Group, after surveying the scene of higher education in the country, observed:[10]

> "In a situation of this type, where the expansion of enrolments in higher education continue at a terrific pace and where available resources in terms of men and money are limited, one obvious solution, if proper standards are to be maintained and the demand for higher education for different sections of the people is to be met, is to adopt the Open University system with its provision of higher education on a part-time or own-time basis. The Group, therefore, recommends that the Government of India establish, as early as possible, an Open University by an Act of Parliament. The University should have jurisdiction over the entire country so that, when it is fully developed, any student, even in the remotest corner of the country can have access to its instruction and degrees."

The Working Group which submitted its report in 1975 made several suggestions about the nature, organisation and financial aspects of the

University. It is believed that a draft bill was prepared sometime in 1976 for the establishment of a national open university but for reasons inexplicable nothing was heard about it subsequently. Taking into account the educational needs of the country later in 1982, the Committee to Enquire into the Working of Central Universities under the chairmanship of Dr. (Mrs.) Madhuri R. Shah recommended that practical steps should be taken for creating a national open university without any delay.[11]

Many of those who are associated with the correspondence education in the country also began to feel the need for a central organisation to coordinate the working of the correspondence education system in the country. They advocated the establishment of a national institute of distance education or a national open university.[12]

Open Universities in States

While these efforts for the establishment of a national open university were on, the Government of Andhra Pradesh considered a proposal to start an open university in the State as early as 1978[13]. However, the proposal was not given any practical shape. Meanwhile, the Osmania University initiated proposals to start an Open Education College to strengthen its distance education system. The College, though a part of the university, was to have full autonomy and University was only to award degreies.[14] At about the time the college was to be established, the new Chief Minlster of Andhra Pradesh, Mr. Bhavanam Venkatram, revived the idea of estabishing an open university and appointed a Committee to examine the proposal.[15] This Committee recommended the establishment of an Open University in the State to provide access to higher education to the adult population of the State for upgrading their functional capacities and improving the quality of their life in the context of broader social and political objectives of equalisation of educational opportunities and the emergence of a new concept of life-long education.[16] Soon after, the wheels of administration moved very fast and the Andhra Pradesh Open University was inaugurated in August 1982.

Imbued by the success of the Andhra Pradesh Open University, many State Governments initiated proposals for the establishment of open universities in their States. Prominent among them are West Bengal, Maharashtra, Kerala, Uttar Pradesh, Rajasthan, Madhya Pradesh and Bihar.

Government of West Bengal decided to establish the Open University from the academic year 1986-87[17]. The legislation to this effect is to be introduced in the forthcoming session of the State Assembly. Government of Maharashtra appointed a Committee to examine the feasibility of establishing an Open University in the State.[18] The Committee submitted its report in January 1985 and a decision about the establishment of Open University has already been taken by the state government.

In its interim report, the University Enquiry Commission constituted by the Government of Bihar under the chairmanship of Prof. V.S. Jha recommended for the establishment of an Open University in that State.[19]

The Governments of Madhya Pradesh and Uttar Pradesh have also constituted committees to consider the feasibility of establishing universities in their respective States. Other States are also evincing keen interest in the concept which is evident from the deliberations of the two day conference of State Education Ministers in New Delhi on 29th and 30th August 1985. At this conference, there was a consensus that every State should have the State level open university.[20]

National Open University

At the national level, however, the earlier proposals remained on paper and no action was taken on the Parthasarathy Committee Report and nothing was known about the Draft Bill prepared. The idea was again revived in 1984. The Prime Minister, Rajiv Gandhi, in his first broadcast, to the nation in January 1985 gave expression to this in the form of Policy Statement when he announced the establishment of a national open university as a part of the new educational policy.[21] In pursuance of this, a Committee was constituted by the Ministry of Education with eminent educationists.[22] The Committee, apart from preparing a Draft Bill, submitted a project report, detailing the various aspects relating to the establishment of National Open University like objectives, courses to be offered, staffing pattern, governance, relations with broadcasting media, financial estimate, etc. The Government, committed as it is to strengthen distance education in the country, introduced a Bill in the Parliament immediately. The Indira Gandhi National Open University Bill was passed by both the Houses in August 1985 and the University came into being on 20th September, 1985.[23] Thus, the idea of a National Open University initiated in 1970 became a reality in 1985.

The Indira Gandhi National Open University was established with laudable objectives and its scope is very wide. This is evident from the following provision of the Act.:[24]

> "The objects of the University shall be to advance and disseminate learning and knowledge by a diversity of means, including the use of any communication technology, to provide opportunities for higher education to a large segment of the population and to promote the educational well being of the community generally, to encourage the Open University and distance education system in the educational pattern of the country and to coordinate and determine the standards in such systems..."

The other objects of the University refer to relating education to the needs of employment and nation building activities; to provide facilities to people to upgrade their knowledge and skills; to develop non-formal education as complementary to the system, to promote national integration and to contribute for the integrated development of human personality through its activities and programmes.[25]

An important feature of the Indira Gandhi National Open University is its jurisdiction. Unlike many conventional universities, its jurisdiction covers the entire Union of India.[26] Though central universities are established as national institutions, some of them began to attract students only from the regions in which they are located; thus losing their all India character.[27] But the Indira Gandhi National Open University will take education to all parts of the country—urban and rural, and plains and hilly areas. Its organisational network will spread throughout the country. The Act provides for the establishment of Study Centres in different parts of the country depending upon needs and requirements. To coordinate and supervise the working of Study Centres, provision is also made for the establishment of Regional Centres. Viewed from this angle, the Indira Gandhi National Open University will become a national university both in letter and spirit.

Governance

Like the other central universities, the Indira Gandhi National Open University will also have its academic and administrative bodies. To suit its peculiar needs, departure has been made in devising certain authorities of the University. An important feature of its organisation is the large measure of flexibility built into it which will enable the University to determine its structure as the need arises. The authorities of the University are: the Board of Management, the Academic Council, the Planning Board, the Finance Committee and the Board of Recognition.[28] The academic activities of the University will be undertaken by different Schools of Studies. No provision has been made for the Court in this University as in several other universities. It has been found that the Court has outlived its utility in the university system. This is, in any case, not a new innovation, nor a radical departure, as Agricultural Universities in the country and a few others do not have provision for a Court. The Committee on Central Universities after examining the working of various authorities has recommended for the deletion of provision relating to the Court in all central universities.

The Board of Management is similar to the Executive Council in the central universities. As the nomenclature explains, the Board of Management is the executive authority and will have a decisive role in the organisation and working of the University. The Academic Council formulates and monitors the academic programmes of the University. It exercises supervision on overall academic policies of the University. The Planning Board is mainly responsible to design and formulate appropriate plans for the growth and development of the University. It will advise the Board of Management and the Academic Council on matters concerning the realisation of objects for which the University has been established. The Finance Committee concerns itself with financial matters and the Board of Recognition is responsible for its affiliation function.

The President of India is the Visitor of the University. The officers of the University are the Vice-Chancellor, the Pro-Vice-Chancellors, the Directors, the Registrars and the Finance Officer.[29] No provision has been

made for Chancellor in this University, as in other Central Universities, as it is found to be superfluous as the functionary has no specific role or responsibility. The procedure for the appointment of the Vice-Chancellor will be more or less on the same lines as in other Central Universities. It is important to note here that provision has been made for more than one Pro-Vice-Chancellor. This is found desirable and necessary as the scope of the activities is very wide, its jurisdiction vast and the method of instruction in the University is different from conventional universities requiring, advanced communication technology, higher supervision, monitoring and proper and constant guidance. Similarly, the University Act provides for more than one Registrar which is a departure from conventional universities. It is felt that it is not possible for one Registrar to grapple with a wide range of administrative and related activities in the University. Further, it was thought desirable that senior officers must head different divisions of the University like administration, academic, evaluation, etc. With this change, all the important branches of the University will be headed by officers of the rank of the Registrar which gives equal status to the heads of various divisions in the University administration. These changes are, thus, introduced, deliberately in the organisation of the University.

Unlike the conventional universities, whose academic activities are organised in the shape of departments, the National Open University will have only Schools. This is important to ensure inter-disciplinary and multi-disciplinary programmes which the University is expected to offer. Arrangements like discipline based departments are ill-suitable for an unconventional university like the Indira Gandhi National Open University. Each of the Schools will be headed by a Director. Since the heads of the Schools will have both academic and administrative functions, the nomenclature has been changed from Dean to Director. The heads of technical units like Computer Centre will also be designated as Directors. This brings certain amount of uniformity.

Academic Programmes

This University proposes to offer both short-term and long-term programmes in the areas of general education, continuing education, extension education and provides facilities for research. These programmes lead to certificate, diploma, graduate, post-graduate and research degrees. Flexibility will be the corner stone of the Indira Gandhi National Open University; indeed the Open University system itself. Its approach will be flexible in offering programmes, flexible in the courses offered, flexible to provide for mobility of students from one system to another system or from one university to another—conventional or unconventional. It will be flexible in the duration of study and will enable a student to dovetail his certificate or diploma studies into under-graduate or post-graduate studies. More important than all these is: there will be flexible approach with regard to entry regulations to enable different sections of community like working people, housewives and other disadvantaged groups to take advantage of the facilities

offered by it.

Instructional Methods

Like the other open universities, the Indira Gandhi National Open University proposes to adopt different methods of instruction depending upon needs and requirements. The University will make use of modern communication technology as well as developments in educational technology to impart quality education to its distance learners. The University will be a multi-media University using correspondence texts, radio and T.V. broadcasts, audio-visual aids, the home experiment kits and face-to-face teaching. There will not be any rigidity in the use of these different media and emphasis will be on the requirements of the programmes and needs of the students.

From the foregoing, it is evident that the Indira Gandhi National Open University will have all the features of an Open University, viz., relaxed entry regulations, scope for self-pacing, flexibility in the combination of courses, transfer of credits, home based education and technology based instruction. All these are essential features of a distance teaching university and distinguish it from the conventional universities.

Two Other Roles

In addition to the above the Indira Gandhi National Open University, as is evident from the objects, will have two other roles viz., maintaining and coordinating standards of teaching in distance teaching institutions in the country; and to affiliate and recognise institutions of higher learning.[30]

The University, which is exclusively committed to distance teaching, has been charged with the responsibility to encourage distance teaching institutions in the country, coordinate their activities and determine standards of performance. This is expected to be a pace setter for all distance teaching institutions in the country. It will also function as a resource centre and will help other distance teaching institutions in maintaining high standards of education. Such a role, as is envisaged above, fulfills the needs of the institues of correspondence education who have been suggesting the establishment of a national body to promote distance education in the country. It is also expected to develop alternative systems of education complementary to the formal system.

Affiliation and recognition is the third role of the Indira Gandhi National Open University. Like many conventional universities, the Indira Gandhi National Open University can affiliate any educational institution, located both inside and outside India. It can also recognise any institution of higher learning for purposes of awarding degrees or to receive grants.

Thus we see that the Indira Gandhi National Open University will not only function as an Open University but also perform the leadership role in distance education. It can be hoped that with the establishment of this University distance education would be encouraged and strengthened.

The establishment of the Indira Gandhi National Open University has

stirred ambivalent reactions. The foremost suspicion lurking in the minds of many is how different is the National Open University from correspondence courses? Do we need a separate University for Promoting distance education? It is important to remember that the open university is totally different from correspondence institutions, though both impart distance education. The latter functions within the overall framework of a conventional university, adopts all the rules and regulations, course structure, etc., of the formal system, do not have scope for innovation nor are flexible enough to adjust to the needs of different categories of learners. More significant than all these features is the legal status conferred on and inherent in the concept of an Open University. The correspondence institutions, as part of the formal university system, neither have legal existence nor enjoy autonomy. The Indira Gandhi National Open University, as other universities in the country, has a separate legal existence and enjoys autonomy as its counterparts in the formal system. It is this basic difference, i.e., the legal status of the National Open University that distinguishes it from other institutions of distance teaching in the country.

Many also wonder whether the establishment of the Indira Gandhi National Open University will provide an alternative system of higher education in the country? Will it substitute conventional educational system? The Indira Gandhi National Open University is not aimed at replacing the formal system of education. It is not a substitute to the formal system nor it makes the formal system of education infructuous. What is aimed at is to widen educational opportunities to those who have hitherto been denied access either for reasons of economic or social consideration or for familial reasons by using the modern communication technology. Its programmes will help in raising the standards of education in general and distance education in particular.

The establishment of the Indira Gandhi National Open University is an important milestone in the development of higher education in the country. With its establishment, it is hoped, the University will play a leadership role in strengthening distance education in the country. It can be expected that the University will provide innovative and high quality education. This not only helps its own students. but also the students of the conventional universities. The University has great potential to equalise opportunities and takes higher education to the door steps of the people. In this connection, the observations of Shri K.C. Pant while piloting the Bill in Parliament are pertinent. He said: "As has happened in many other countries, it is expected that the National Open University will have positive impact on the rest of the educational system Even those students who are not enrolled with it will be able to take advantage of its material and media programmes. We are breaking new ground in the field of education today; that we are taking a step which is full of promise and great potential".

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Notes From Research

OCCUPATIONAL DISTRIBUTION OF ENGINEERING AND MEDICAL GRADUATES,

The importance of education has been glorified by many, as it truly deserve, particularly in the context of present day fast changing world. "The capacity of individuals to understand and adapt to economic and technical change is, in to-day's complex technological civilisation, a major condition of access to jobs and income"[1] This 'capacity' is obtained mainly through formal education. In her planned developmental programme India has given proper emphasis to education at all levels. Further, "special emphasis was placed on developing facilities for technical education which is the very basis of industrial development".[2] Similarly, the importance of the health of the population and the role of doctors in keeping it up need no special emphasis.

The aim of the present note is to examine how the engineering and medical graduates/post graduates are absorbed in the labour market. Are the emphasis given in each Five Year Plan to produce more and more engineers and doctors justified? Are they engaged in professions for which they are trained?

Using the 1971[3] data, an attempt has been made to relate occupation and education of engineering and medical graduates. The National Classification of Occupations, 1968, on which is based the 1971 Census classification of occupations have grouped occupations into 8 Divisions, 94 Groups and 461 Families. Families are either single occupation or minor groups of occupations. But education-wise classification is available only at the group level which are actually clusters of occupations.

It should also be mentioned that the professions of interest here have long been a male monopoly and that it is only very recently that females ventured into these professions. This is particularly true of engineering. In 1971, of the total working engineering graduates, only 0.81 per cent were females. The corresponding proportion among the working medical graduates worked out to be 17.37 per cent.

Findings

It is interesting to note from Table 1 and 2 where the percentage distribution of workers with graduate and above level of education in engineering and technology and medicines

Table 1

PERCENTAGE DISTRIBUTION OF WORKERS WITH GRADUATION AND ABOVE BY OCCUPATIONAL DIVISIONS IN URBAN INDIA, 1971

Occupational Divisions		*Graduate and above level of education in*			
		Engineering and Technology		*Medicine*	
		Males (%)	*Females* (%)	*Males* (%)	*Females* (%)
0-1	Professional, technical and related workers	68.33	79.38	94.10	98.12
2	Administrative, executive and managerial workers	10.45	3.21	2.19	0.61
3	Clerical and related workers	4.68	8.95	0.80	0.24
4	Sales workers	3.12	1.56	1.50	0.28
5	Service workers	0.40	0.49	0.18	0.14
	Farmers, fishermen, loggers and related workers	0.24	—	0.04	0.03
7-8-9	Production and related workers, transport equipment operators and labourers	11.09	3.31	0.59	0.26
X	Workers not classified by occupation	1.69	3.10	0.60	0.32
	Total (per cent)	100.00	100.00	100.00	100.00
	Absolute number	(125,010)	(1,028)	(76,066)	(15,999)

Note: — = *No number in the cell.*
Source: *Census of India, 1971, Series 1—INDIA*
Part II-B(V)—General Economic Tables, pp. 294-305.

Table 2

PERCENTAGE DISTRIBUTION OF WORKERS WITH GRADUATION AND ABOVE BY OCCUPATIONAL GROUPS IN URBAN, INDIA, 1971

Occupational Groups		*Graduate and above level of education in*			
		Engineering and Technology		*Medicine*	
		Males (%)	*Females* (%)	*Males* (%)	*Females* (%)
	(1)	(2)	(3)	(4)	(5)
00	Physical Scientists	0.53	1.17	0.20	0.03
01	Physical science technicians	0.14	0.68	0.05	0.05
02	Architects, engineers, technologists and surveyors	52.12	29.86	0.26	0.08
03	Engineering technicians	7.28	5.25	0.09	0.03

(Contd.)

	(1)	(2)	(3)	(4)	(5)
04	Aircraft and ships officers	0.90	—	0.01	—
05	Life scientists	0.13	—	0.19	0.25
06	Life science technicians	0.05	0.49	0.03	0.03
07	Physicians and surgeons (including dental and veternary surgeons)	0.32	2.92	86.89	85.79
08	Nursing and other medical and health technicians	0.08	2.72	0.88	3.56
09	Scientific, medical and technical persons, other	0.16	0.10	0.14	0.10
10	Mathematicians, statisticians and related workers	0.07	0.10	0.02	—
11	Economists and related workers	—	0.10	—	—
12	Accountants, auditors and related workers	0.20	0.49	0.02	—
13	Social scientists and related workers	0.10	0.68	0.09	0.29
14	Jurists	0.11	0.97	0.06	—
15	Teachers	5.95	33.46	4.98	7.90
16	Poets, authors, journalists and related workers	0.03	0.10	0.01	—
17	Sculptors, painters, photographers and related creative artists	0.06	0.10	0.01	—
18	Composers and performing artists	0.02	0.19	0.02	—
19	Professional workers, not elsewhere classified	0.08	—	0.11	—
20	Elected and legislative officials	0.04	—	0.01	0.01
21	Administrative and executive officials, government and local bodies	3.57	0.68	1.52	0.43
22	Working proprietors, directors retail trade	0.48	—	0.18	0.01
23	Directors and managers, financial institutions	0.11	—	...	—
24	Working proprietors, directors and managers, mining, construction manufacturing and related concerns	5.57	1.56	0.39	0.16
25	Working proprietors, directors, managers and related executives, transport, storage and communication	0.21	—	...	0.01
26	Working proprietors, directors and managers, other services	0.34	0.97	0.07	—
29	Administrative, executive and managerial workers, not elsewhere classified	0.13	—	0.01	—
30	Clerical and other supervisors	1.98	1.26	0.29	0.05

(Contd.)

(1)		(2)	(3)	(4)	(5)
31	Village officials	0.03	—	0.01	—
32	Stenographers, typists and card and tape punching operators	0.11	1.56	...	0.01
33	Book-keepers, cashiers and related workers	0.36	0.97	0.04	0.01
34	Computing machine operators	0.05	—	—	—
35	Clerical and related workers	1.50	3.02	0.42	0.17
36	Transport and communication supervisors	0.48	1.17	0.02	—
37	Transport conductors and guards	0.01	—	0.01	—
38	Mail distributors and related workers	0.01	—	...	—
39	Telephone and Telegraph operators	0.16	0.97	0.01	—
40	Merchants and shopkeepers, wholesale and retail trade	1.90	0.49	1.03	0.17
41	Manufacturers, agents	0.28	—	0.02	—
42	Technical salesmen and commercial travellors	0.15	—	0.16	0.04
43	Salesmen, shop assistants and related workers	0.55	1.07	0.27	0.07
44	Insurance, real-estate, securities and business service, salesmen and auctioneers	0.19	—	0.01	—
45	Money lenders and pawn brokers	0.04	—	0.01	—
49	Sales workers, not elsewhere classified	0.01	—	—	—
50	Hotel and resturant-keepers	0.02	—	0.01	—
51	Housekeepers, matron and stewards (domestic and institutional)	0.01	—	—	0.1
52	Cooks, waiters, bartenders and related workers (domestic & institutional)	0.01	—	...	—
53	Maids and other housekeeping service workers, not elsewhere classified	0.01	0.49	0.02	—
54	Building caretakers, sweepers, cleaners and related workers	0.01	—	0.01	—
55	Launderers, dry-clearners and pressers	0.01	—	0.01	—
56	Hair dressers, barbers, beauticians and related workers	—	—	—	—
57	Protective service workers	0.21	—	0.06	—
59	Service workers, not elsewhere classified	0.11	—	0.07	0.01
60	Farm plantation, dairy and other managers and supervisors	0.09	—	0.02	—
61	Cultivators	—	—	—	—
62	Farmers other than cultivators	0.12	—	0.01	—
63	Agricultural labourers	—	—	—	—

(Contd.)

	(1)	(2)	(3)	(4)	(5)
64	Plantation labourers and related workers	—	—	—	—
65	Other farm workers	0.01	—	0.01	0.03
66	Forestry workers	0.02	—	—	—
67	Hunters and related workers	—	—	—	—
68	Fishermen and related workers	0.01	—	0.01	—
71	Miners, quarrymen, well drillers and related workers	0.28	—	0.01	—
72	Metal processors	1.16	—	...	—
73	Wood preparation workers	0.04	—	—	—
74	Chemical processors and related workers	0.76	—	0.23	0.10
75	Spinners, weavers, knitters, dyers and related workers	0.80	0.97	0.03	—
76	Tanners, follmongers and pelt-dressers	0.01	—	—	—
77	Food and bererage processors	0.12	—	0.03	—
78	Tobaco preparers and tobaco product makers	0.02	—	0.01	—
79	Tailors, dress makers, sewers, upholsterers and related workers	0.02	—	—	0.03
80	Shoe makers and leather goods makers	0.02	—	—	—
81	Carpenters, cabinet and related workers	0.09	—	0.01	—
82	Stone cutters and carvers	0.03	—	—	—
83	Blacksmiths, tool makers and machine tool operators	0.98	0.49	0.05	—
84	Machinery fitters; machine assemblers and precision instrument makers (except electrical)	2.11	0.10	0.05	0.01
85	Electrical fitters and related electrical and electronic workers	1.72	0.49	0.03	—
86	Broadcasting, station and sound equipment operators and Cinema projectionists	0.03	0.10	—	—
87	Plumbers, welders, sheetmetaland structural metal preparer and erectors	0.11	—	0.01	—
88	Jewellery and precious metal workers and metal engravers (except printing)	0.04	—	0.01	—
89	Glass formers, potters and related workers	0.08	—	0.01	—
90	Rubber and plaster product makers	0.14	—	...	—
91	Paper and paper board product makers	0.03	—	...	—
92	Printing and related workers	0.12	—	0.04	—
93	Painters	0.01	—	0.01	—

(Contd.)

	(1)	(2)	(3)	(4)	(5)
94	Production and related workers not elsewhere classified	0.53	0.58	0.03	0.06
95	Brick layers and other constructions workers	1.31	0.10	0.01	0.03
96	Stationary engines and related equipment operators, oilers and greasers	0.15	—	—	—
97	Material handling and related equipment operators, loaders and unloaders	0.07	0.49	...	—
98	Transport-equipment operators	0.21	—	0.02	0.03
99	Labourers not elsewhere classified	0.08	—	0.02	—
Group XI	Workers reporting occupations unidentifiable or inadequately described	1.16	3.11	0.33	0.18
Group X9	Workers not reporting any occupations	0.53	—	0.27	0.15
		100.0	100.00	100.00	100.00
	Total	(125,010)	(1,028)	(76,066)	(15,999)

Note: (*1*) ..... = *percentage* <0.01
(*2*) — = *No number in the cell*

Source: *Census of India, 1971, Series 1—India, Part II-B(V)—General Economic Tables, pp. 294-305.*

by occupational divisions and groups respectively for urban India is given, that there is hardly any occupational division/group where the graduates of engineering and technology or medicine were not found. It seems to reflect the stark underemployment created by economic pressure coupled with inadequate openings for work for which they are trained. Even though the Table is self explanatory, it seems appropriate to point out the major groups of concentration. Slightly over half the male engineers are found in the group architects, engineers and surveyors. Seven per cent were working as engineering technicians and six per cent as teachers. Another nearly six per cent were engaged as working proprietors, directors and managers in mining, construction, manufacturing and related work. Administrators, executives and managers in Government and local bodies accounted for nearly 4 per cent. The above mentioned occupational groups together absorbed 75 per cent of the working male engineering graduates.

Coming to their female counterparts slightly over a third were working as engineers, architects, technologists, surveyors and engineering technicians. Another third was absorbed in teaching profession (and we assume that they are teachers in engineering colleges).

Among medical graduates, a comparatively better occupational concentration was found. Eighty seven per cent of the male and 86 per cent of the female medical graduates were working as physicians and surgeons, as they should, and another 5 per cent of male and 8 per cent of females were teachers.

Engineering and medical graduates were found in clerical and related activities, sales work, service work, in the occupational groups of farmers, fishermen, loggers, hunters etc., and also in the group of production and related workers, transport equipment operators and labourers. Needless to say that most of the workers in these categories does not need a graduate degree leave alone one in a highly specialised field like engineering/medicine.

Conclusions

The information provided in this note shows that a noticeable proportion of the professionally trained graduates/ post graduates are working in occupations that at best require only graduation in general education. Some of the occupations does not even require a secondary school level of education. Higher education, particularly in professional courses is very costly[4] especially in a country like India where nearly half the population live below the poverty line.[5] Thus, those who manage to get higher education have invested very heavily in terms of money, energy and time to get their degree and will be aspiring for a bright future with a professional career. Instead, if they are absorbed in occupations which does not require their special training, the investment on them will prove to be a colossal waste which we cannot afford either at the country level or at the personal level. Further, the disappointment and moral derangement of the concerned individuals are not to be discounted. It may even affect their work. It is also possible that when highly qualified persons compete for jobs with less educated persons the latter group will be deprived of job opportunities which normally would have been theirs.

The situation warrant an explanation especially in the light of the proclaimed need for engineers and doctors. The real culprit here seems to be lack of proper co-ordination between manpower planning and educational planning. Unless adequate attention is paid at the planning stage, large scale production of "unwanted" and "expensive" graduates will create social problems with grave consequences.

The information provided in this note, obtained from census publications make one wonder the type of education required to become an engineer or a doctor. One finds engineers working as doctors and doctors working as engineers. For example nearly 6 per cent of the total female engineering graduates were working as physicians, surgeons, nurses and other medical technicians . This could only be a misclassification. But then the question remains, how many such misclassifications are there in the published data?

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1. OECD, *Education and Working Life in Modern Society*, Paris, 1975, p. 11.
2. Government of India (Planning Commission), *Third Five Year Plan*, p. 45.
3. 1981 Census data classified by education and occupation are not yet available.
4. The average annual cost per student in 1965 66 for general education was Rs. 346/- compared to 1170/ for engineering and Rs. 1799/ for medicine. In 1971-72 these costs have increased to Rs. 419/-, Rs. 1592/- and Rs. 2697/- respectively. See, Government of India (Ministry of Education and Culture), *A Handbook of Education and Allied Statistics*, New Delhi, 1983, pp. 222-223. The figures given in the handbook does not include the indirect costs involved as data are not available. But "Teaching of science and technology requires the provision of very costly equipments" (UNESCO, World Survey of Higher Education, IV, 1977, p. 83).
5. Government of India (Planning Commission), *Sixth Five Year Plan*, p. 16.

D. Radha Devi

EXPECTATIONS OF MBA PARTICIPANTS

With the growth of technology and complexity in industry, there seem to be an increasing need for high quality of managers with formal management education, to take care of the organisational growth. To meet such demand management education particularly MBA programme is offered in Institutes, Universities and Colleges in different parts of the country. The management education should aim at developing the participants' analytical and conceptual skills as well as giving them the courage and confidence to meet unfamiliar situation, so that they can function effectively at higher levels of company's operations. Further best results could be obtained in management education is combined with other disciplines like technology, science, economics, etc., so that a person who has technical

expertise in any one line could become an efficient manager in the deployment of such knowledge.[1]

A seminar on 'Improving Management Education in India' organised by AIMA highlighted the absence of specialisation in these institutions in their academic content, which is very much needed in the present state of affairs in industry. Like career selection by others, the participants of MBA programme, who come from different disciplines will have their own likes and dislikes for a particular occupation, functional area, sector and type of organisation. Keeping this in view, for the management education to be meaningful not only the industry's needs/expectations from MBA's to be considered but also the expectations of MBA participants with regard to specialisation and employment. The probability is that a participant who specialise in a particular functional area would take up a job in the same functional area. If the management institutions are provided with information about the preferred functional area of specialisation and employment as viewed by the participants, to a greater extent it can arrange to extend the desired infrastructure for specialisation and placement.

Methodology

The present study has been conducted in Madurai where MBA programme is offered on full time and part time basis. After pretesting, questionnaires have been circulated to a population of 110 part time participants and 60 full time participants, undergoing MBA programme, covering aspects like preferred functional area of specialisation, occupation, sector, type of organisation, etc. At a later date the duly filled-in questionnaires were, collected which were 84 in case of part time and 55 in case of full time, amounting to a total of 139 respondents.

Objectives of the Study

(1) To find out the preferred functional area of specialisation as viewed by full time and part time participants.
(2) To find out the preferred employment in terms of occupation, sector and type of organisation as viewed by full time and part time students.
(3) To find out the perceptual difference between full-time and part-time participants with regard to specialisation and employment.

Analysis

Table 1 shows that sizeable majority of the participants would like to have functional specialisation in MBA.

Table 1

PREFERENCE FOR SPECIALISATION

Sl.No.	*Opinion*	*Part time*	*Full time*	*Total*
1.	Yes	76 (90.5)	46 (83.6)	122 (87.8)
2.	No	5 (6)	9 (16.4)	14 (10.1)
3.	No opinion	3 (3.5)	0	3 (2.2)
		84	55	139

Note: Figures in brackets are percentages.
For full-time and part-time participants $X^2 = 3.688$ $df = 1$ $P < 0.05$ *not significant*

Table 2 shows that 26 per cent of the part time participants prefer Marketing and General Management respectively for their specialisation followed by Finance, Human Resource Management and Quantitative methods. Whereas 33 per cent of the full time participants prefer Marketing as their specialised area followed by Human Resource Management, Financial Management, General Management and Quantitative Methods.

Table 3 shows that 73 per cent of the part time participants would like to switch over to other jobs after MBA. Similarly 93 per cent of the full time participants would like to go for employment after MBA.

Table 2

PREFERRED FUNCTIONAL AREA OF MANAGEMENT FOR SPECIALISATION

Sl. No.	*Functional area*	*Part-time*	*Full-time*	*Total*
1.	General Management	22 (26.2)	7 (12.7)	29 (20.9)
2.	Marketing Management	22 (26.2)	18 (32.7)	40 (28.8)
	Human Resource Management	15 (17.9)	15 (27.3)	30 (21.6)
4.	Financial Management	17 (20.2)	13 (23.6)	30 (21.6)
5.	Quantitative Methods (Production)	8 (9.5)	2 (3.6)	10 (7.2)

Note: Figures in brackets are percentages.
For full-time and part-time participants $X^2 = 5.887$ $df = 1$ $P < 0.05$ *Not significant*

Table 3

PRFERENCE FOR EMPLOYMENT

Sl. No.	*Opinion*	*Part-time*	*Full time*
1.	Yes	61* (72.6.)	51 (92.7)
2.	No	23 (27.4)	4 (7.3)

Noet: Figures in brackets are percentages
**those who want to switch over to other jobs.*

Table 4 shows that 92 per cent of the part time and 80 per cent of the full time participants prefer executive position than other occupations.

Table 5 shows that 92 per cent of the part time participants prefer executive position preferably in Marketing area followed by General Management, Finance, Human Resource

Table 4
PREFERRED OCCUPATION

Sl. No.	*Occupation*	*Part-time*	*Full-time*	*Total*
1.	Executive	56 (91.8)	41 (80.4,	97 (86.6,
2.	Teaching	4 (6.6)	1 (2)	5 (4.5)
3.	Research	1 (1.6)	4 (7.8)	5 (4.5)
4.	Civil services	—	5 (9.8)	5 (4.5)
	Total	61	51	£ 112

Note: Figures in brackets are percentages.
For Part-time and Full-time participants } $X^2 = 3.893$ $df = 3$ $P < 0.01$ *Not significant*

Table 5
PREFERRED OCCUPATION IN FUNCTIONAL AREAS

Sl. No.£ £Functional Erea	*Part-time*			*Full-time*		
	Executive	*Teaching*	*Research*	*Executive*	*Teaching*	*Research*
1. General Management	14 (25)	1 (25)	—	4 (9.8)	—	—
2. Marketing Management	15 (26.8)	—	—	17 (41.5)	1 (100)	2 (50)
3. Human Resource Management	8 (14.3)	1 (25)	—	14 (34.1)	—	2 (50)
4. Financial Management	14 (25)	—	—	6 (14.6)	—	—
5. Quantitative Methods	5 (9)	2 (50)	1 (100)	—	—	—
Total	56 (91.9)	4 (6.5)	1 (1.6)	41 (89)	1 (2)	4 (9.8)

Note: Figures in brackets are percentages.
For Part-time and Full-time participants } $X^2 = 15.695$ $df = 8$ $P > 8.05$ *Significant*

Management and Quantitative Methods. Whereas 89 per cent of the full time students prefer executive position preferably in Marketing area followed by Human Resource Management, Finance, General Management and Quantitative Methods. Preference for teaching and research is relatively very minimum in both the cases.

Table 6 shows that 36 per cent of the part time participants prefer manufacturing sector for their employment, followed by Banking (30%), Trading (25%), Plantation (5% and Transportation (4%). Similarly 51 per cent of the full time students prefer manufacturing sector for their employment followed by Banking (24%), Trading (12%), Transportation (10%) and Plantaions (2%).

Table 7 shows that Public Sector organisations (38%) are preferred by part time

Table 6
PREFERRED SECTORS OF EMPLOYMENT FOR EXECUTIVE POSITION

Sl.No.	*Sectors*	*Part-time*	*Full-time*	*Total*
1.	Manufacturing	20 (35.7)	1 (51.2)	41 (42.3)
2.	Transportation	2 (3.6)	4 (9.8)	6 (6.2)
3.	Banking	17 (30.4)	10 (24.4)	27 (27.8)
4.	Trading	14 (25)	5 (12.2)	19 (19.6)
5.	Plantations	3 (5.4)	1 (2.4)	4 (..1)
	Total	56	41	97

Note: Figures in brackets are percentages.

For part-tiem and full-time participants } $X^2 = 5.571$ $df = 4$ $P < 0.05$ *Not significant*

Table 7
PREFERRED ORGANISATION FOR EMPLOYMENT WITH RESPECT TO EXECUTIVE POSITION

Sl.No.	*Type of organisation*	*Part-time*	*Full-time*	*Total*
1.	Public Sector	21 (37.5)	12 (29.3)	33 (34)
2.	Public Limited	17 (30.4)	13 (31.7)	30 (30.9)
3.	Private Limited	2 (3.6)	3 (7.3)	5 (5.2)
4.	Multinationals	15 (26.8)	12 (29.3)	27 (27.8)
5.	Co-operatives	1 (1.8)	1 (2.4)	2 (2.1)
	Total	56	41	97

Note: Figures in brackets are percentages.

For part-time and full-time participants } $X_2 = 1.155$ $df = 4$ $P < 0.05$ *Not significant*

participants followed by Public Limited (30.4%), Multinationals (26.8%), Private Limited (3.6%) and Co-operatives (1.8%),. Whereas in the case of full time participants Public Limited organisations (31.7%) are preferred, followed by Public Sector (29.3%) and Multi-nationals (29.3%), Private Limited (7.3%) and Co-operatives (2.4%).

Table 8 shows that desire to become entrepreneurs is very minimum in both the cases.

Table 9 shows that Universities are preferred for teaching and research associate positions in both the cases.

Table 8

REASONS FOR NOT TAKING EMPLOYMENT

Sl.No.	*Reasons*	*Part-time*	*Full-time*	*Total*
1.	Managing family business	—	2 (50)	2 (7.4)
2.	Diversifying the business	—	—	—
3.	Promoting a new business	5 (21.7)	2 (50)	7 (25.9)
4.	Consultancy	2 (8.7)	—	2 (7.4)
5.	Higher Studies	—	—	—
6.	Remain in the present position	1 (69.6)	—	16 (59.3)

Note: Figures in brackets are percentages.

Table 9

PREFERRED INSTITUTION FOR TEACHING AND RESEARCH ASSOCIATE

Sl.No.	*Institution*	*Part-time*	*Full-time*	*Total*
1.	Universities	2 (40)	5 (100)	7 (70)
2.	Institutes of Management	—	—	—
3.	Colleges	—	—	—
4.	Incompany Training Institutes	3 (60)	—	3 (30)
	Total	5	5	10

Note: Figures in brackets are percentages.

Discussion

The major findings of the study lead to the following discussion.

(1) Since sizeable majority of both part-time and full-time participants desire to have functional specialisation in MBA, it is clear that they expect functional specialisation in MBA, from the institutions offering MBA. On this opinion there is no significant difference in their perception, the X^2 being 3.688. A possible reason for their desire to have specialisation, could be the increased demand for functional specialists, from industries. Further depending on the academic background of the candidate undergoing MBA programme, he may have his own specialisation.

(2) Generally marketing, general management and human resource management seem to be the preferred areas of specialisation in case of part time participants. Interestingly the full time participants also have desire to specialise in marketing and human resource management. Further on this opinion also they do not differ significantly the X^2 being 5.887. The part time participants, having already gained some experience in business firms would naturally aspire to specialise in general management, expecting top position in the firm or elsewhere. The preference for marketing and human resource management are very much influenced by the academic background of the candidate, increasing demand for marketing and personnel specialists in industries due to accute competition in the market and growing labour problems respectively.

(3) Most of the part time participants desire to switch over their jobs after completing MBA, the reason being once they become professionally qualified in management-aspire for opportunities to practice the professional management. Sizeable majority of the full time participants, have the desire of taking up employment, rather starting business on their own, after completing MBA.

(4) Both part time and full time participants are attracted by executive posts than teaching and research. On this opinion also they do not differ significantly in their perception, the X^2 being 3.893. The attractive salary bracket and fringe benefits could be the reason for their attraction towards executive posts. This ultimately may lead to faculty insufficiency in institutions offering management courses.

(5) There is consistency between the perceived functional area of specialisation in MBA and perceived functional area for employment in case of both part time and full time participants. The perception of part time and full time participants differ significantly about the preferred functional area of employment. It is due to the fact that part time participants. Seem to be more attracted toward general management when compared to full time participants.

(6) The most preferred sector of employment for executive position, as perceived by both part time and full time participants seem to be manufacturing sector. On this opinion also they do not differ significantly in their perception the X^2 being 5.571. Since the manufacturing units are relatively more in number than other sectors in India, the offerings for executive posts are also likely to be bright. Further the operations of manufacturing units seem to be manifold, requiring functional specialists in almost all areas of management.

(7) The most preferred organisation for employment seem to be public sectors and public limited companies by both part time and full time participants. On this opinion also they do not differ significantly in their perception, the X^2 being 1.155. The reason for such preference could be security of employment, opportunity for advancement and attractive salary.

To sum up both part time and full time participants desire to have functional specialisation in MBA. The preferred areas seem to be marketing and human resource management. Sizeable majority of the participants do not aspire for starting business on their own, teaching and research. Most of the participants seem to occupy executive posts in manufacturing sector that two in public sectors and public limited companies.

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K. Kathiresan

CO-CURRICULAR PARTICIPATION CASTE AND EDUCATIONAL DEVELOPMENT

Extra-curricular or co-curricular activities provide a situation where hierarchy does not exist, recognition solely depends upon performances and success. The participation of SC/ST students in co-curricular activities is markedly controversial. Desai (1974), Dubey (1974) and Singh et. al. (1974) have shown their active participation in the co-curricular activities. On the other hand, Adisheshiah (1975), Chitnis (1974), Pimpley (1974), Gangrade (1974) and Singh (1972) had concluded the low participation of SC & ST students in co-curricular activities.

In brief, the research evidences in respect of co-curricular participation among, SC/ST students are neither conclusive nor definite. So, far, no study has been carried out either related to the co-curticular participation among the students of four major caste groups or related to the educational development and co-curricular preferences. Therefore, this study is aimed to fill up this gap of knowledge. As it was an exploratory study therefore, following null hypotheses were formulated—

Hypotheses

(1) The graduates of different faculties (e.g. Arts, Science & Commerce) belonging to different caste groups (i.e. B, K,V & O) participate equally in different co-curricular activities.
(2) Statistically, there is no significant difference among the graduates of different groups of educational development in respect to their participation in co-curricular activities.

Design of the Study

Structure: This study was ex-post-facto in nature in which caste (B, K, V & O)[1] and groups of educational development: GED[2] (UMG, IG & SG) were independent variables, co-curricular participation was dependent variable and faculty (Arts, Science & Commerce), & class were treated as controlled variables. In a way, this study was carried out on the

1 B—Brahmins, K—Kshatriyas, V—Vaishyas & O—Other Castes, comprised of Scheduled Castes, Scheduled Tribes and Backward Castes.

2 The students showing consistently higher achievement (% of grand total). from one class to another (i.e. High School, Intermediate & B.A./B.Com./B.Sc., Part I), were categorised as upward mobile graduates (UMG), but those who have shown inconsistency in their achievements, were treated as irregular graduates (IG) while those, who reflected no change in their achievement level, were treated as stagnate graduates (SG).

sample of students, belonging to four major castes, having three groups of educational development and was drawn from three faculties. Thus, the design of this study nas turned out to be $4 \times 3 \times 3$ factorial design with unequal cases in each cell.

Sample: With the help of proportionate-stratified-random sampling technique, a sample consisted of 1050 students (B.A., Part II, N=450, B.Sc., Part II, N=350, B.Com., Part II, N=250), was drawn from 7 constituent & affiliated colleges of Kumaun University, situated at Almora, Berinag, Haldwani, Kashipur, Naini-Tal & Pithoragarh. The students were selected randomly from different faculties in re.pect to their caste-proportions in that faculiy.

Tool: Social characteristic Description, developed and standardized by Uniyal & Shah (1981) alongwith Personal Data Schedule (Shah 1980) was used in this study. Authors reported its reliability & validity of satisfactorily high order.

Statistical Treatment: Snedecor's Method (1934) of expected numbers for table of multiple classification with disproportionate sub-class numbers' followed by Scheffe's Test (1954), was used to analyse the data.

Results

Table 1

MEAN CCP SCORES OF THE GRADUATES OF ARTS FACULTY

	Different Castes				*Different GED*		
	B	*K*	*V*	*O*	*UMG*	*IG*	*SG*
N	169	180	44	57	206	122	122
M	4.80	5.27	5.16	5.32	4.03	6.11	5.85

Table 1 A

VALUE OF ANALYSIS OF VARIANCE AMONG CASTES & AMONG GED

Source of variation	*df*	*SS*	SS_m	*F*
Among Castes	3	8.46)+	2.82	0.21*
Among GED	2	425.79)+	212.89	16.03**
Castes x GED	6	23.06)+	3.84	0.29**
Within Groups	438	5817.20)++	13.28	

(+ *Calculated from adjusted scores*
)++*Calculated from original scores*

* *Not significant*
***Significant*

Table (1-A) reveals that among the graduate students of different castes, a near perfect similarity was found in relation to their participation in the co-curricular activities (F=0.21, n.s.) But, among the graduates of different GED, a significant variation in their mean CCP scores was revealed (F=16.03, P=001). Further analysis between two groups concluded that the UMG had shown less interest in different co-curricular activities than the IG (F=24.81, P=.001) and SG (F=19.10, P=001) students. No such difference was obtained between IG & SG (F..0.30, n.s.) on this variable.

Table 2

MEAN CCP SCORES OF THE GRADUATES OF SCIENCE FACULTY

	Different Castes				*Different GED*		
	B	*K*	*V*	*O*	*UMG*	*IG*	*SG*
N	165	126	31	28	142	109	99
M	4.89	5.84	4.35	2.64	3.77	6.32	5.43

Table 2A

VALUE OF ANALYSIS OF VARIANCE AMONG CASTES & AMONG GED

Source of variation	*df*	*SS*	SS_m	*F*
Among Castes	3	96.01)+	32.00	4.40**
Among GED	2	431.56)+	215.78	29.65**
Castes x GED	6	27.64)+	4.61	0.63*
Within Groups	338	2459.62)++	7.28	

The study of science graduates clearly evidenced a significant variation on mean CCP scores among the graduates of different castes (F=4.40, P=.01) as well as of different GED (F=29.65, P=.001). To ascertain the differences between two castes, the further analysis carried out which infers that the graduates of '0' stratum had comparatively less interests than B (F=8.21, P=05), K(F=11.73, P=.01) and V (F=8.45, P=05). In case of other comparisons (e.g. B Vs K, B Vs V & K Vs V), no significant variations were yielded. Similarly, when the two groups of educational development were compared regarding their mean co-curricular preferences, the more pronounced differences were revealed only between UMG Vs IG (F=55.23, P=001) and UMG Vs SG (F=22.38, P=001). In both the cases, UMG had shown little interest in co-curricular activities than IG & SG counterparts. Whereas, the comparison between IG Vs SG, showed that both the groups were almost identical on this count (F=5.62, n.s.).

Table 3

MEAN CCP SCORES OF THE GRADUATES OF COMMERCE FACULTY

	Different Castes				*Different GED*		
	B	*K*	*V*	*O*	*UMG*	*IG*	*SUG*
N	90	60	75	25	89	84	77
M	5.67	6.55	6.08	3.68	4.52	7.02	6.29

Table 3A

VALUE OF ANALYSIS OF VARIANCE AMONG CASTES & AMONG GED

Source of variation	*f*	*SS*	SS_m	*F*
Among Castes	3	137.32)+	45.77	7.05**
Among GED	2	315.55)+	157.77	24.31**
Castes x GED	6	44.35)+	7.39	1.34*
Within Groups	238	1544.84)++	6.49	

In this sub-sample, the graduates of different castes (F=7.05, P=01) as well as of different GED (F=24.31, P=.001), vary very significantly on mean CCP scores. Although, the graduates of these four castes (B,K,V & O) were found to vary significantly yet the remarkable variations were identified only between B Vs O (F=8.01, P=.05), K Vs O (F=15.68, P=.01) and V Vs O (F=11.73, P=.01). In case of different GED, the UMG had shown least interest towards the co-curricular activities as compared to IG (F=41.89, P=.001) and SG (F=20.11, P=.001) whereas no such variation was identified between IG & SG (F=3.30, n.s.).

Discussion

On the variable of co-curricular preferences, the graduates of different GED varied more consistently. The upward mobiles of each faculty (Arts, Science & Commerce) had shown significantly poor participation in co-curricular activities than the irregulars and stagnates. Thus, it can safely be said that the upward directional achieving group had low favourable disposition towards co-curricular activities while the graduates of irregular and stagnate groups had shown stronger inclination for the same variable. It is again a finding that is in the line of logic of the culture of these academic campusses where co-curricular activities are treated to be a separate programme from the curricular and so those students who have higher curricular achievements keep themselves away from the co-curricular activities but those who failed to achieve better achievements in curricular areas show their keen interests in co-curricular programmes, in order to satisfy their ego of social popularity or to give expression to their higher achieving tendencies. A somewhat similar trend was revealed by Singh & Prasad (1965) between academic achievement and participation

in co-curricular activities.

On the other hand, on this variable, when the comparisons were made between the graduates of different castes on the basis of their faculty (Arts, Science & Commerce), very weak differences were identified. Among Arts graduates, no remarkable variation was found among the different caste groups. In conclusion, it can be said that the students belonging to 'O' stratum, participates equally with high castes in co-curricular activites. Similar finding was also reported by Salma (1980) for Harijans of Almora campus college of Kumaun University. But, the study of Science and Commerce faculties, gave some what contradictory findings. Here, the graduates of Other Castes had shown least participation in different co-curricular programmes as compared to the graduates of higher caste echelon. This finding is in the line of logic of other investigators (i.e. Adisheshiah 1975, Chitnis 1974, Gangrade 1974, Pimpley 1974 and Singh 1972). The low amount of interest in the co-curricular activities amongst the other caste graduates of Science & Commerce courses may be perhaps because these courses are new for them due to their poor family educational background (Uniyal & Shah 1982) and their highly dissatisfactory achievements in these courses (Uniyal & Shah 1984) which compel them to devote much time in their studies rather than to participate in co-curricular activities.

In brief, the study concludes that the adequate involvement of upward mobile students in co-curricular activities in due to inadequate facilities of these activties e.g. indoor & out door games, debate & drama competitions, poem recitation etc. etc. in the colleges. This is a dimension, which can be exploited for affecting greater interaction amongst the students of different castes too and so for improving the institutional climate of the higher education centres, an attempt at organizing as may co-curricular activities as possible, is needed.

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Communications

CAMPUSES OF HIGHER EDUCATION: GENESIS OF UNREST

Campuses of higher education are passing through a phase of transition and turmoil all over the world. Many probable explanations are being put forward by social scientists. Beck and Douglus (1970) base their explanation on the outlook of people in general, which has undergone a drastic change because of the explosion of knowledge in all the aspects of human life. Moris (1976) observed that it is not only explosion of knowledge but the intervention of new knowledge which has put strong constraints upon the old traditional values of moral ethics and intra-personal relations. For Poppom, (1965) "the man has become open and secrecy and control have become myths in social life". But Rollwin and Sini (1973) feel that man has become more inquisitive and demands the immediate solutions of even ultimate problems. This group of social scientists feels that transition and turmoil are the by—product of change in outlook and status of man in the social system and, therefore, the enlightened organisations have become usually victims of this phenomenon.

But this phenomenon has not received proper attention from social scientists, who are analysing the contemporary organizational structures. They feel that there are conflicts and contradictions between social system and organizations working within them. A very remarkable example is being given of Indian situation wherein democratic pattern alongwith its values has been accepted by the nation at the overt level. But at the institutional level, the same bureaucratic structure not only flourishes but is being reinforced gradually. Educational institutions offer an example of this conflict. Because of this, social scientists and educationists, who had been working in the field of understanding the phenomenon of student activism, have failed to give any viable explanation. It is a fact that there is a variance in the genesis of turmoil, but the forms and expressions of it are almost similar. It clearly shows that students are growing personality traits responsive and sensitive enough to react sharply at the expectation of facing any hinderance in their achievement of the goals they feel desirable. It shows that the content, the character and expression of desirable behaviour are gradually losing their social force and gaining strength in small group dynamics. Activism by itself may generate disfunctional consequences to the institution as a whole. But it sharply brings into focus another group which shows hopelessness, helplessness, aloofness and, to some extent, ignorance towards the activism itself. It has also been reported that activist phenomenon is concentrated within a very small minority of students (Parson, 1982). The common student is either dis—interested spectator or alienated indi-

vidual, who finds himself maladjusted in the dynamics of activism.

Here, it may not be forgotten that after independence, Indian society has been striving hard to accelerate its pace of growth and provide equal social and economic justice to its people as envisaged in the preamble of Indian constitution. In order to fulfil this promise, an effort was made as early as fifth decade of this centenary to launch planning strategies at every level, in every sphere of social life. Unfortunately, the results of five year plans have failed to maintain their target in accordance with the scheduled programme, which has created a hiatus between the social demands and promises made by the social leaders (Parameshwaran, 1983). This hiatus has created an atmosphere of discontent in every walk of life. Some social scientists feel that discontentment and connected activism are the colateral expressions of the general phenomenon. But it can not be ignored that such an expression not only hampers the pace of growth of the students but it also harms the institutional climate in such a manner that education itself has become the greatest problem to the nation (Sharma, 1980).

In this content, it needs no reiteration that the growth of education alongwith its quantity and quality is significantly related to the level of socio-economic advancement. If education remains sick, then socio-economic advancement is bound to be slackened. Various improvement programmes in education have failed to yield any fruitful results because of this situation. It is probably difficult to locate one point in the whole educational matrix to identify the source of discontent. So, a brief sketch is being given below in order to understand its coverage and character:

Administrative instability

Since independence the administrative machinery at all the levels of education has remained unchanged in content and character. Although not only numerical strength of its clientale has gone up but the demands upon it has proliferated. Some newer responsibilities have come into operation. But provions of facilities and services are still inadequate. The channels of communications have become inordinately longer and tedious. The, decision-making process is highly technical and slow. These facts amply reveal the inefficient character of these organizations. These are trying to accomodate and adjust themselves with great internal and external constraints due to which fluctuations have become very normal in the institutional set up. Most of the problems, that are logically raised, are not properly cared, and so when disatisfactions mount to unmanageable proportions, the solutions are found on ad-hoc basis. Ad-hocism, provisonalism and specificism have taken place of normalism, definitness and long range solutions. It is very interesting to note that efficiency or inefficiency of a particular programme is not dependent upon its execution. But it is dependent upon the strength of a man who is associated with the political power outside the campuses. With change in political complexions, the authority changes which ultimately leads the administration toward fluctuating and instable situations.

Absence of Institutional culture

Educational institutions in India have gradually grown from the lowest ladder to the highest ladder in a long span of time before 1947. This gradual growth imparted them a gradually developing institutional culture. Consequently, the extension or expansion of the institutions did not effect the established healthy traditions but contributed in reinforcing them. This type of progressive but gradual growth of culture was very much in consonance with the institutional models of English speaking countries that India has borrowed (Singh, 1976). But after independence, the enthusiasm for expansion was so strong that most of the institutions of higher learning were established without any traditional base. In some areas, where people were not fully developed to accept higher learning, the colleges and universities were started on purely political considerations. This political base contributed in politicising these institutions right from the day of inception which resulted in assigning them the traditions of political culture rather than the academic

culture. The contemporary activism in most of the universities and colleges is just an extension of that initial political tradition. Since students, in general, have been brought up in this tradition, they fail to accept any academic norm or any academic programme which comes in conflict with the political culture. Moreover, this culture reinforces their perceptions by supporting them in their active life outside the campuses. A glaring omission, which can be located by any person, can be seen in the absence of the academic code of conduct of the students. There are rules maintaining discipline, but these rules are not positive in approach. Thus, in short, it can be stated that higher education in India lacks strong and stable academic culture.

Examination orientation

In the contemporary system, there is no accent upon the development of social qualities in a student. It is upon his achievement in the examination. Thus his entire activity is oriented towards the examination. His otner qualities are neither taken into consideration nor given any significance. Probably, this unidirectional approach has created a cultural vacuum amongst the students. They think that their activistic tendencies can easily change the examination results in their favour, and there is no dearth of such instances where examination machinery has been affected very strongly by student activism. Probably, it needs no research to substantiate that examination results at every stage are highly unrealiable. Students do not have any faith in them. So, their resorting to any type of criminal activity in order to fulfil this one-point programme is natural, Shekharan (1980) was corrent when he observed that remove examination and you have no educational programme worth pursuing.

Higher Education—a forced intervention

Colleges and universities accommodate a variety of students that differ widely on ages, cultural up-bringing, academic achievement and socio-economic status. It is so, because the job-market is rigid and narrow. One cannot pick up the job even after getting a post graduation. So, he has no option but to spend his time in the institutions of higher learning which are comparatively easier to enter and economically less burdensome. Such students are usually frustrated towards the social set up. Their frustration affects others in the campus specially newer entrants that generates a climate of restlessness, dissatisfaction and helplessness in the campus,. In a way, activism is a media of getting oneself engaged during this period of forced intervention. As long as society is incapable to provide the fruitful alternatives to those who have completed their graduation, this situation will continue.

Growth of Trade Unionism

For last twenty years, the campuses are witnessing a very strong phenomenon of trade unionism amongst the academic and non-academic employees, and this can be assigned to two conflicting factors. Firstly, the positions are being allocated on the basis of one's individual achievement. Not experience but experties is the contemporary slant. But social perceptions are conditioned in favour of ascribed positions and this ascription is limited to a few belonging to higher socio-economic status. Sociologically speaking, Indian social system is gradually getting attuned to attainment orientation which necessitates a restlessness amongst those who believed in ascription-orientation. This basic cause of restlessness cannot be voiced strongly and so, various forms of demands are put forward to express it. Employees would have easily adopted to this new situation, had the principle of attainment been applied uniformally without any discrimination. But the clause of reservation is being implemented on the basis of caste rather than socio-economic characteristic of a person. This situation is illogical, democratically unsound and socially unethical. The accent on academic excellence is getting clouded day by day in these campuses. Moreover, the edu-

cational institutions now have come completely under bureaucratic control. Even for smaller demands the Vice-Chancellor of long established university has to depend upon the mercy of the government. Thus, the employees have no option but to resort to trade union activities which reinforce the activistic tendencies of the students. Unless the character of these institutions, which are neither autonomous nor controlled, is clari ed, trade unionism will grow stronger day by day.

Lack of Organisational control

After a long chain of violent and destructive incidence on the campuses of educational institutions, it is being felt that the institutional set up is extremely weak to handle any immanent crisis. Even the habitual miscreants cannot be stopped from entering into the institutions. Inheriting an Ivory tower concept', these institutions have assumed a posture of in-difference towards them. The government controlling machinery does not come into operation without intimation; resultantly, these institutions have been characterized as "free and forlorn battlegrounds of group interests ending with unimaginable loss of peace, property and person" (Khan, 1980). Similarly, the techniques, devices and provisions of maintaining discipline on these campuses, are fraught with many logical and legal weaknesses. Khan (1980) has reported that out of 380 disciplinary actions taken by seven major universities of India were found lacking in legal admissibility by the courts. Consequently, a contemplation is going on to formulate some legal provisions for educational institutions.

Considering the above mentioned situations, it is somewhat obvious that contemporary student community, as a whole, is pursuing its studies under undefined but recurring threats to peace and order. They acknowledge the gravity of situation. They also realize that in this suffocating situation, there is no alternative barring activism. So, it can safely be concluded that student activism in its present form and function, is the by-product of the organizational weaknesses of educational institutions.

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DISTANCE EDUCATION IN INDIA

Over two decades ago, in 1962 the idea of starting correspondence education in India was conceived as a pilot project in the University of Delhi. The success achieved by this pilot project encouraged several other universities to take up instruction through the distance education technique. In 1984, 28 universities have taken up correspondence education and it has been estimated that nearly 500,000 students are gettng instruction at various levels. This implies that nearly 13 per cent of total enrolment is accounted for by the distance learners at the higher education level in India. This is by no means a small achievement. The Government of India in its educational policy had decided that our target at the level of higher education should be to impart instruction to 20 per cent students through the technique of correspondence education. Since detailed break-up for the students study through correspondence medium is available for 1982-83, we present below the situation as it prevailed then:

Table 1
ENROLMENT IN HIGHER EDUCATION IN INDIA (1982-83)

	Under-graduate	*Post-graduate (including research)*	*Diploma/ Certificate courses*	*Total*
A. Regular University/ Departments and Colleges	27,45,381 (96.2)	3,45,265 (87.1)	46,340 (93.8)	31,36,986 (95.1)
B. Correspondence/ Distance Education	1,05,628 (3.8)	51,017 (12.9)	3,067 (6.2)	1,59,712 (4.9)
Total	28,51,009 (100.0)	3,96,282 (100.0)	49,407 (100.0)	32,96,698 (100.0)

Source: Compiled from *University Grants Commission, Report for the Year, 1982-83.*

The concept of '*Open University*' as developed in Britain and '*University without walls*' as developed in the USA is an extension of the idea of Correspondence Education and the development of these universities provided distance education respect and dignity. It has been demonstrated that if carefully planned, instruction at any level and in any type of course can be planned through the distance education technique.

However, the problems of organising and developing distance education are very different in an under-developed country like India as compared with advanced countries like England, United States, France, USSR, Switzerland etc. Firstly, the attainment of higher education is considered a passport for getting a job and this impels people to acquire a B.A./B.Com. degree or M.A./M.Com. degree. A higher degree does provide comparative advantage to a candidate to compete for a job which prescribes a lower level as the minimum eligibility condition. Since it is not possible to provide a seat to every student demanding higher education in a regular college/university, the medium of distance education which is relatively cheap does provide an alternative. Secondly, the weaker sections of our society are not able to provide long periods of education through a regular institution and for them, distance education provides a means to improve their qualifications and thus, compete with the relatively better-off sections of our society. Thirdly, the proportion of our population in the relevant age groups receiving higher education is much lower compared with advanced nations and as we advance in our programmes of increasing the size of educated manpower, distance education can become a viable means to achieve this end. Fourthly, in view of our national policy to slow down the process of expansion of college/university education, the relevance of expanding correspondence education has assumed added importance. More so, when it has been decided that nearly 20 per cent of the total enrolment will be catered through correspondence education in our national policy on education.

A review of the growth of distance education in India reveals that during the sixties, only 4 Institute of Correspondence education were established, viz., Delhi (1962), Panjabi (Patiala) (1968), Meerut (1969), Mysore (1969). The sixties was, therefore, a period during which the idea of distance education germinated in the Indian soil. During the decade (1970-80), 19 universities started Institutes/ Directorates of Correspondence Education and it can be said that a major thrust to distance education was provided. The Institutes/ Directorates established during this period also took up post-graduate courses and some diploma/certificate courses. Panjab and Himachal Pradesh (1971), Andhra and Sri Venkateswara (1972), CIEFL, Hyderabad (1973), Patna (1974), Bhopal, Utkal and Bombay (1975), Madurai Kamraj, Jammu, Kashmir and Rajasthan (1976), Osmania and Kerala (1977), Allahabad and SNDT Women, Bombay (1978), Annamalai and Udaipur (1979). Every year during the seventies, more and more universities took to distance education as an alternative technique of instruction. Moreover, whereas during the sixties, as an experimental measure, only undergraduate courses were started, it is in the seventies that Institutes/Directorates of Correspondence Courses started post-graduate and diploma/ certificate courses. During 1980-84, a few more Correspondence Courses were started. Madras University instituted correspondence courses in 1982.

For the first time in the history of distance education, the Government of Andhra Pradesh took the momentous decision to establish Andhra Pradesh Open University in 1982. Thus, an autonomous institution of the level of a university was set up to develop distance education. Soon after its establishment, Tamil Nadu, Maharashtra and Kerala have also started thinking in terms of an Open University for the State and thus integrate all the distance education institutes/directorates so that available duplication of work in preparing reading materials can be taken care of.

More recently, Prime Minister Rajiv Gandhi in his broadcast to the nation on 6th January 1985 declared that the Union Government intends to set up an Open University. The structure of Open University, whether it will be a federative type or an autonomous institution has not become clear so far. Subsequently, in September 1985, the Government established Indira Gandhi National Open University and this has lent greater prestige to this technique of education. This is a welcome development because with the creation of universities totally devoted to distance education, the impediments posed by the traditional university structure in the way of promoting distance education will be removed.

A review of correspondence education reveals that as against 40,753 students receiving education through this technique in 1971-72, by 1975-76, total enrolment went up to 59,445 indicating a growth rate of 9.7 per cent per annum. But during 1975-76 to 1982-83, enrolment went up from 59,445 to 1,59,712 giving a growth rate of 15.2 per cent per annum.

It may be noted that the annual rate of growth of enrolment in correspondence courses during the last 12 years has been much higher than that in the Universities. For the period, 1975-76 to 1982-83 the annual rate of growth of enrolment was 15.2 per cent in Correspondence Courses as against a bare 3.7 per cent in the Universities. But as between different sub-sectors, the enrolment grew at the post-graduate level by 23.8 per cent per annum as against 5.5 per cent in University departments and colleges. At the undergraduate level, the growth rate of enrolment in correspondence courses, though higher than in regular colleges and universities, yet it was much lower than the growth rate at post-graduate level. In other words, greater expansion of distance education has taken at the post-graduate level during 1975-76 to 1982-83 than at the under-graduate level. However, there has been very little growth of diploma/cetificate courses through distance education.

Private appearance and its impact on Distance Education

The existence of the provision of private appearance in a large number of universities has diverted quite a large number of students to join parallel colleges/tutorial colleges/ coaching academics run by private individuals. Such unrecognised educational institutions have been mushrooming in various parts of the country. A vested interest has been created

Table 2

GROWTH OF ENROLMENT IN CORRESPONDENCE COURSES IN INDIAN UNIVERSITIES

Year	*Under-graduate*	*Post-graduate (including research)*	*Diploma/ Certificate*	*Total*
1971-72	30,169 (74.0)	6,172 (15.1)	4,412 (10.8)	40,753 (100.0)
1975-76	48,016 (80.7)	11,429 (19.3)	—	59,445 (100.0)
1982-83	1,05,628 (66.2)	51,017 (31.9)	3,067 (31.9)	1,59,712 (100.0)
Annual Compound Growth Rate of Enrolment				
1971-72 to 1975-76	12.29	16.63		9.73
1975-76 to 1982-83	10.95	23.81		15.18

Source: Computed from the data provided by the *University Grants Commission Report for the year 1972-73, 1976-77 and 1982-83.*

Table 3

GROWTH OF ENROLMENT IN UNIVERSITIES AND AFFILIATED COLLEGES IN INDIA

	Under-graduate	*Post-graduate*	*Diploma/ Certificate*	*Total*
1971-72	18,35,077 (88.9)	1,95,338 (9.5)	34,626 (1.6)	20,65,041 (100.0)
1975-76	21,46,919 (88.5)	2,38,207 (9.8)	40,983 (1.7)	24,26,109 (100.0)
1982-83	27,45,381 (87.5)	3,45,265 (11.0)	46,340 (1.5)	31,36,986 (100.0)
Compound Annual Growth Rate of Enrolment				
1971-72 to 1975-76	4.0	5.1	4.2	4.0
1975-76 to 1982-83	3.6	5.5	1.8	3.7

and a discussion by the UGC Committee with the Vice-Chancellor of the University of Kerala revealed that it may not be possible to abolish private appearance, in the absence of state support. A similar situation prevails in the University of Rajasthan (Jaipur) where 70,000 students appeared in the various examinations as private candidates. The private colleges are able to manage teaching classes at the under-graduate level and, therefore, they are able to wean away a large number of students seeking admission through correspondence courses.

The situation at the post-graduate level is different. Parallel Colleges/Tutorial Colleges are not able to attract large number of students in particular subjects. Moreover, competent teachers to teach at the post-graduate level are not available and as a consequence, parallel colleges/tutorial institutes have to charge high fees at post-graduate levels. Thus, correspondence courses are able to attract large number of students at the post-graduate level, moreso, in view of the moderate fees and personal contact programmes organised by correspondence directorates, but the challenge of parallel college /tutorial college is very real at the undergraduate level. The Distance Education Institutes have, therefore, to adopt the second best solution of improving their services so that they become effective competitors to parallel colleges. In this connection, the following suggestions are relevant:

(i) Improvement and timely-despatch of reading materials;
(ii) Provision of library-cum-study centres for correspondence students;
(iii) An intensive personal contact programme of 20 days a year at the under-graduate level (to be held at two times in the year).
(iv) An intensive personal contact programme of 30 days a year at the post-graduate level (to be held at two times in the year).

The experience of the University of Delhi reveals that improvement of services has enabled the School of Correspondence Courses to become an effective competitor and the number of students coming through the channel of private appearance has declined. This experience has to be taken advantage of in strengthening correspondence directorates.

The history of growth of distance education in India reveals the following:

(i) During the decade 1962-72, the process of establishing undergraduate courses was witnessed. This may be described as the 'germination stage.'

(ii) During the second decade, 1972-82, there has been a rapid expansion of correspondence courses both at the undergraduate and the post-graduate level, though the growth rate at the post-graduate level was much higher than at the under-graduate level. But most of these courses were a mere replication of the traditional B.A./B.Com., M.A., M. Com. B.Sc. courses of the universities. In this sense, this phase may be described as the 'extension phase' of the traditional university structure. It marked the process of expansion.

(iii) The Diploma/Certificate courses of non-traditional nature have been started by some Correspondence/Distance Education units, but their impact on the total enrolment has been very insigtificant. There is a growing realisation that this trend towards non-traditional streams needs to be strengthened.

(iv) The scope of correspondence education has remained narrow. It has got to be widened. For this purpose, new courses have to be designed keeping in mind the needs of our society. Such courses should specifically be linked to job requirements. They should be short-duration diploma courses so that the "continuing" part of distance education which has so far remained neglected, is developed.

(v) Science and other technical subjects account for merely 2 per cent of enrolment and that too only in B.Sc. and M.Sc. courses. Job-oriented science courses have not been tried through the distance education technique.

Distance Education in the University set-up

In table 4, we present state-wise data indicating the share of correspondence students in total enrolment regionwise. Taking the Southern Region comprising of Andhra Pradesh, Karnataka, Kerala and Tamil Nadu, about 10 per cent of total enrolment in higher education is accounted for by distance education students in 1982-83. With Madras University

also starting the Institute of Correspondence Education, the share of distance education is likely to increase still further in subsequent years. Tamil Nadu has the singular distinction of providing education through distance education technique to 22 per cent of total enrolment. During 1984-85, over 1.25 lakh students are reported to be receiving instruction through correspondence education in Tamil Nadu.

Table 4

SPATIAL DISTRIBUTION OF ENROLMENT IN INDIA

	Colleges and University Departments	*Correspondence Courses*	*Total* 3=(1+2)	*Share of Correspondence Enrolment in Total percent)* 4=
	(1)	(2)	(3)	*2/3 × 100*
Southern Region				
1. Andhra Pradesh	2,43,877	17,244	2,61,121	6.7
2. Karnataka	2,36,494	14,736	2,51,230	5.9
3. Kerala	1,29,423	1,795	1,31,218	1.4
4. Tamil Nadu	2,44,579	67,042	3,01,827	22.2
Sub-total	8,44,579	1,00,817	9,45,396	9.5
Northern Region				
5. Delhi	81,101	9,822	90,923	10.8
6. Haryana	61,990	—	61,990	—
7. Himachal Pradesh	16,432	11,701	28,133	41.6
8. Jammu & Kashmir	21,259	1,875	23,134	8.8
9. Panjab	1,15,386	11,016	1,26,402	8.7
10. Rajasthan	1,70,242	6,136	1,76,378	3.5
11. Uttar Pradesh	4,79,034	1,367	4,80,401	0.1
Sub-total	9,45,444	41,917	9,87,361	4.2
Central & Western Region				
12. Madhya Pradesh	2,34,192	1,925	2,36,117	0.8
13. Maharashtra	3,69,626	12,690	3,82,316	3.3
14. Gujarat	2,06,180	—	2,06,180	—
Sub-total	8,09,998	14,615	8,24,613	1.8
Eastern Region				
15. Assam	64,135	—	64,135	—
16. Bihar	1,92,151	1,567	1,93,718	0.8
17. Manipur	9,068	—	9,068	—
18. Meghalaya	9,416	—	9,416	—
19. Orissa	66,868	796	67,664	1.2
20. West Bengal	1,95,327	—	1,95,327	—
Sub-total	5,36,965	2,363	5,39,328	0.4
Grant Total	31,36,986	1,59,712	32,96,698	4.9

Similarly, in Andhra Pradesh with the establishment of Andhra Pradesh Open University, distance education has acquired a more respectable status. But for Kerala in which distance education is making very slow progress due to the large number of parallel colleges operating in the State, in all other states in the Southern region, the share of distance education is higher than the national average of 5 per cent.

The second region which is of importance in the sphere of distance education is the Northern region comprising of Delhi, Himachal Pradesh, Jammu and Kashmir, Panjab, Rajasthan, Haryana and Uttar Pradesh. Among them, Himachal Pradesh tops the list with about 42 per cent of total enrolment being accounted for by distance education, share of Delhi is about 11 per cent and Jammu and Kashmir and Panjab is about 9 per cent each. Rajasthan is still below the national average and just accounts for 3.5 per cent. The most disappointing is the Uttar Pradesh where despite the fact that though two Institutes of Correspondence Courses viz. Meerut and Allahabad, have been established, distance education has not got off the ground. Similar is the condition in Haryana.

In the Central and Western Region, it is only Maharashtra which indicates a promising record in distance education. But while Gujarat has yet to appear on the distance education map, the share of a large state like Madhya Pradesh being less than 1 per cent, only indicates the insignificant development of distance education in the state.

The vast Eastern region consisting of the States of Bihar, Orissa, West Bengal, Assam, Meghalaya, Mizoram, Manipur seems to be an arid region so far as distance education is concerned. The total enrolment in the two small units set up at Patna (Bihar) and at Bhubaneshwar (Orissa) is about 2,400. The region as a whole accounts for 0.4 per cent of the enrolment in higher education being catered to by the ditance education technique. This only indicates the vast untapped potential in this region and there is need to invigorate this region towards the development of this alternative technique.

Non-Viable Units

For a distance education unit to be treated as viable, an enrolment of 5,000 may be considered reasonable. A normal gestation period of three years may be considered for examining whether a unit has become viable. Any examination of the data as given in table 4 reveals that out of the 23 units for which data were available for 1982-83, as many as 11 had an enrolment below even 2,500 and thus they all fall in the category of non-viable units. 6 distance units were continuing with an enrolment of less than 1,000 despite the fact that some of them have been in existence for more than a decade. Distance education technique must reap the benefit of economies of scale and, therefore, an analysis of the factors responsible for stagnation in these non-viable units be made. Just as the National Textile Corporation by a process of continuous nursing has been able to revive the sick units in the textile industry, similarly, the State should undertake an in-depth study of the factors responsible for the non-viability of these units and then take such measures which can revitalise them.

In this regard, to strengthen distance education, a few suggestions are being made:

(i) For a vast country like India, it may not be possible to have a National Open University with the all the distance education units being federated to it as its satellites. Though education has been placed on the concurrent list, but there may be severe opposition from States like Tamil Nadu where these units are earning surpluses which are being fed to augment the revenues of the universities. Besides this, for a central university, to prepare reading materials in all the different languages may be very difficult and the problems of cultural and linguistic diversity and those of university autonomy may pose problems which may not be easy to resolve. It is, therefore, suggested that wherever, a state level open university becomes viable, it should be established and all the correspondence/distance education/adult and continuing units should be integrated with it. Such a step can free distance education units from the stranglehold of the traditional university structure. This can help their development in accordance with the philosophy of correspondence education. This will also eliminate the asymmetry between decision-making being done by

Table 5

STATE-WISE LOCATION OF CORRESPONDENCE COURSES IN INDIA

	Year of Establishment	*Enrolment*
A. SOUTHERN REGION		
1. Andhra Pradesh		
i) Andhra Pradesh Open University, Hyderabad	1982	Enrolment not started
ii) Andhra University, Vishakhapatnam	1972	13,998
iii) Central Institute of Foreign Languages, Hyderabad	1973	719
iv) Osmania University, Hyderabad	1977	1,851
v) Sri Venkateswara University, Tirupati	1972	676
2. Karnataka		
i) Bangalore University, Bangalore		n.a.
ii) Mysore University	1969	14,736
3. Kerala		
i) University of Cochin, Cochin		N.A.
ii) University of Kerala, Trivandrum	1977	1,795
4. Tamil Nadu		
i) Annamalai University	1979	18,388
ii) University of Madras		
iii) Madurai-Kamraj University	1976	48,654
Sub-Total		1,00,817
B. NORTHERN REGION		
5. Delhi		
i) University of Delhi, Delhi	1962	9,822
ii) Jamia-Millia Islamia, New Delhi		
6. Haryana		
i) Kurukshetra University, Kurukshetra		
7. Himachal Pradesh		
i) Himachal Pradesh University, Simla	1971	11,701
8. Jammu & Kashmir		
i) University of Jammu, Jammu	1976	1,153
ii) University of Kashmir, Sri Nagar	1976	722
9. Panjab		
i) Panjab University, Chandigarh	1971	8,757
ii) Panjabi University, Patiala	1968	2,441

10. Rajasthan		
i) Mohanlal Sukhadia University Udaipur	1979	369
ii) University of Rajasthan, Jaipur	1976	5,767
11. Uttar Pradesh		
i) University of Allahabad, Allahabad	1978	824
ii) Meerut University, Meerut	1969	543
Sub-total		41,917
C. CENTRAL & WESTERN REGION		
12. Madhya Pradesh		
i) Bhopal University, Bhopal	1975	1,925
13. Maharashtra		
i) University of Bombay, Bombay	1978	6,603
ii) SNDT Women's University, Bombay		6,087
iii. University of Pune, Pune		
14. Gujarat Nil		
Sub-total		14,615
D. EASTERN REGION		
15. Assam Nil		
16. Bihar		
i) Patna University, Patna	1974	1,567
17. Manipur Nil		
18. Meghalaya Nil		
19. Orissa		
Utkal University, Bhubaneshwar	1975	796
20. West Bengal Nil		
Sub-total		2,363

persons wedded to the traditional university structure about distance education programmes.

(ii) There has been a feeling in several universities that correspondence units are milch cows and thus the Universities do not bother about developing a good distance education system. Support in the form of physical infrastructure as well as teaching and non-teaching staff is not provided. The University Grants Commission has developed some norms for the teaching staff but no norms for non-teaching staff have been provided. It would be very desirable to develop norms about both teaching and non-teaching staff.

(iii) It is generally believed that distance education units need not develop their own infrastructure. They can make use of the infrastructure of colleges and university departments. In practice, it has been observed that such a system does not work. To some extent for personal contact programme, buildings of other institutions can be used, but for the development of study centres or centres for educational technology and a good library, space for teachers to prepare lessons, audio and video-tapes, slides, transparencies etc. it is necessary that distance education units should develop their own infrastructures. This requires a rethinking on the part of the authorities to fund these programmes adequately. Since during the Seventh Plan, about a million students would be covered by the distance education programmes, appropriate provision of funds by the State Governments and Central Governments would be necessary.

Distance education has come to stay in India. Its signficance is being realised. In a democratic society, the aspirations of the people for higher education have to be satisfied. On the other hand, it is not possible to have an unlimited number of seats in the Colleges and University Departments. Distance education resolves this dilemma of the democratic societies by providing an educational technique which can meet this end with nearly one-third of the cost. The question is: Should the entire cost be borne by the students or should a part be shared by the society?

Ruddar Datt

TEN-POINT SCALE OF STUDENT EVALUATION

The external examination system with absolute numerical (or percentage) marks is the most commonly practised and most widely condemned system of evaluation. It has been repeatedly emphasised that uncertainties and errors associated with the process of marking examination papers have a built-in error of measurement. Consequently a small difference in the percentage marks in the aggregate between two candidates does not necessarily imply a proportional significant difference in their levels of achievement. Therefore, reporting absolute numerical marks is not a valid and reliable index of scholastic achievements of the students. To obviate this difficulty the letter grade system was put forward. Here a range of marks is represented by a letter grade. Each letter grade is said to reprsent a "distinguishable cluster of students having the same qualitative performance"[1]. Five to seven such clusters are identified and letter grades, such as A,B,C,D, and E are declared corresponding to groups of students judged as 'very good', 'good', 'average', 'below average' and 'poor', respectively. The cumulation of letter grades for a number of courses is effected by converting the letter grades into equivalent numerical points and calculating a cumulative grade point average (CGPA) as follows:

$$\text{CGPA} = \frac{\Sigma_i \, W_i g_i}{\Sigma \, W_i}$$

where W_1 represents weight (or credit) for ith course and g_1 the numerical equivalent of letter grade secured by the student in the ith course (e.g. 5 points may be assigned for an A, and so on). CGPA for the entire degree is usually reported as a three-digit number. In the letter grade system CGPA is an index of cumulative performance of a student.

Critique of Letter Grade System

The protagonists of the letter grade system claim two ma;or features for the system: (1) it does not attempt to draw fine distinctions among students with small differences in absolute marks; (2) letter grades are a relative index of the attainment of the students, indicating placement of a student relative to others in the class.

It is our assertion that the letter grade system is over-rated, flawed and is based on a contradictory logic. It has a limited applicability and, thus, an alternative system of symbolic grades is needed:

(i) Letter grades group together students of qualitatively different levels of scholastic attainment. A student securing 98% marks may be clubbed together with one obtaining 75% marks for an A grade. Thus, the discrimination index of letter grade system is low. At BITS, Pilani, a relatively successful model of letter grade system, as many as one-third of students are awarded letter grade C[1].

(ii) Letter grades are thought to be an index of relative standing of a student in relation to others in the class. This is not truly the case as a letter grade results in only five to seven distinct ranks and thus it cannot give accurate rank order-

ing. A true rank ordering system is that of percentile system which is followed for Graduate Record Examination (GRE).

(iii) In the letter grade system CGPA is commonly given as a three-digit number, thus claiming a significance, by default, of better than 1% accuracy. Letter grades representing a range of marks do give a recognition to the measurement error of raw marks. This recognition is effectively withdrawn when CGPA is declared in three significant figures. The conversion scheme for numerical marks to three-digit CGPA through letter grades cannot invest it with an accuracy which the basic raw marks themselves do not have. This violates the very spirit of letter grade system that "(a) globally we cannot be very fine (b) locally, ... for each question, we can attempt to be very fine ....."[1]. Whereas letter grades for a course club together genuinely distinct levels of attainment, CGPA for a set of courses brings out the artificial distinctions, so that, in effect, we end up being imprecise locally and fine globally.

(iv) In the letter grade system deciding the cut off line between adjacent letter grades is very crucial. It is often that natural clusters[1] or distinguishable groups do not emerge and a division is effected by using a distribution curve based on normal distribution. In this method, the classification of students into various letter grades relies on dividing the area under an ideal bell-shaped curve into five or seven parts[2]. Statistical treatment along the lines of employing normative standard tables is not possible unless the number of students under classification is statistically large. This is very frequently not the case in PG Course (and even UG professional courses). Besides, raw marks do not usually follow a normal curve as the student performance is not expected to be a stochastic process. In a number of cases distribution curve is highly skewed, which makes the decision of drawing a cut off line rather tedious and almost arbitrary. From the foregoing discussion it follows that letter grades are neither here nor there. Neither they reflect the absolute performance (as they represent a broad range of marks) nor they are precise indicators of relative standing as they reduce the number of categories to only a handful.

System of Symbolic Grades

Letter grades system is intimately intertwined with the system of complete internal assessment. The latter has many unresolved difficulties in the Indian context. Barring some residential university campuses, agricultural and technological institutes, where internal system has succeeded, most other educational institutes, which represent 90% of college-going population, have to live with the external system. Therefore, letter grade system cannot be implemented there and an alternative system with similar objectives is called for. What is, therefore, needed is a system of symbolic grades which recognises the measurement error in raw grades and has an applicability to not only internal examination system, but more importantly, external examination pattern of evaluation also. To this end we propose a ten-point scale of symbolic grades.

Ten-Point Scale

It has been correctly pointed out that the standards of examiners very significantly, and even a given examiner may award somewhat different marks at different times for the same answers. Thus, there is a measurement error in raw marks. Of course, the magnitude of this error depends on the type of question paper and the nature of subject as well. Raw marks can be (i) exact for an objective type test (such as multiple choice test)(ii) quite accurate ($\pm$ 5%, say) for mathematical or analytical questions (iii) moderately accurate (say $\pm$ 10%) for wellphrased unambiguous questions (iv) at best moderately accurate for traditional essay-type questions which are graded an masse, as is usually the practice in many of our large scale university examinations, particularly in the humanities subjects. Cumu-

lative raw grade for all components (test, quizzes, assignments, etc.) of a course can be no more accurate than 10% of maximum marks. Therefore, it would be prudent to classify percentage raw grades for each course in 10% intervals defining eleven different levels of distinct performances. On this 10 point scale (strictly speaking eleven point scale) ranges 0-4%, 5-14%, 15% to 24% ....., 85% to 94% and 95%-100%, would correspond to 0,1,2 ..... 9,10 points, respectively. Groups of students falling within any given 10% marks interval would thus be considered to belong to a "single qualitative cadre". The report cards (or marks sheets) of students would now show only the score on 0-10 point scale for each course. A cumulative grade point average (CGPA) can now be computed by taking a weighted average of points for all the courses studied by the student. In the proposed system CGPA for the degree would be rounded off to an integer so that CGPA does not attempt to draw distinctions originally absent in raw grades and scale points of an individual course. Thus, course-wise results as well as cumulative result for the degree will be reported as an integer ranging between zero and ten.

The proposed scheme has the following merits:

(i) It recognises that it is unreasonable to make distinctions among students whose marks vary within a few percent.

(ii) The least count of one point on the proposed ten point scale is optimal in that/ that unlike letter grades it does not group students of distinctly different levels of achievement.

(iii) It is simpler to comprehend as mental image for relative placing of an integer in 0-10 scale is much more secure in the minds of laymen and experts alike unlike the relative standing of letter grades A,B,C.D and E.

(iv) The conversion of raw marks to points on the proposed scale requires no subjective judgement. It is a straight-forward correspondence which can be easily effected by the teacher/examiner himself or the administrative staff responsible for compiling results and preparing report cards.

(v) Ten point scale can be adapted equally well to the internal as well as the external systems of examinations unlike the letter grade system which operates only in the realm of internal evaluation system.

(vi) If it is necessary to award divisions, as is presently done under traditional system of evaluation, CGPA groupings can be easily devised to do his. One such grouping scheme can be:

CGPA Groupings	*Division*
8 to 10	I with Hons.
6 to 7	I
4 to 5	II
0 to 3	Fail

(vii) In comparison to letter grades, ten point scale can better identify exceptionally talented students as the latter has optimal number of cadres of similar qualitative achievement. A student seccuring an CGPA of ten, or even nine, can be identified as exceptional with greater validity than a straight 'A' student under the letter grade system.

Conclusion

It must be emphasised that unlike the letter grades the proposed ten point scale is essentially a pseudo-grade system since its correspondence with raw grades is direct, predictable and rigid. The scale does not claim to be an index of relative standing unlike the (exaggerated) claims of the letter grade system. The present proposal aims at just one task, which is:

avoiding making unrealistic distinctions among students on the basis of raw marks while at the same time keeping intact genuine discrimination among groups of students of distinctly different levels of scholastic achievement.

The proposed scheme offers, admittedly, a marginal improvement in the grading and evaluation. The minimal effort required for its implementation, universality of its application to all types of examination systems and distinct advantages it offers over the traditional system should help find it a wide acceptance.

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H.R. Anand

FINANCING OF RESEARCH IN U.K.*

Research is the torch bearer of advancement in the field of education. In fact, universities are the main nursaries where research is carried on in diverse areas of study. Provision of incentives and financial assistance to research scholars, thus, becomes an imperative necessity. In U.K., research in pure sciences, technology and social sciences is being done not only at Universities, Colleges, polytechnics and Government departments but also by professional associations, independent institutions, and commercial firms in the private sector.

There is a "dual support system" for financing research in U.K. The Universities are provided general support by University Grants Committee (U.G.C.) in the form of 'block grants' for appointment of staff, building, libraries and equipment. Selective financial assistance is also given to individuals and institutions by different "Research Councils" namely (i) Medical Research Council, (ii) Agricultural Research Council, (iii) Natural Research Council, (iv) Science Research Council and (v) Social Sciences Research Council in their 'respective fields of study. Besides, there are more than 200 private foundations which provide financial assistance to scholars and institutions for research.

In the present paper, we have studied the working of three major funding agencies giving financial assistance for research in social sciences. These agencies are:

(1) Social Science Research Council
(2) Nufield Foundation
(3) Leverhulme Trust.

The Social Science Research Council

The Social Science Research Council (SSRC) was established in 1965 following the recommendations of the Heyworth Committee(*). The main objectives of the SSRC are as follows:—

1. To encourage and support research in social sciences.
2. To provide and operate services for common use in carrying on such research.

* The study is based on the project entitled "Research Management and Funding" which the author undertook as a Visiting Fellow, Queen Elizabeth House, Oxford, during the year 1982-83. The author is thankful to Prof. Michael Brock, Warden, Nuffield College, Oxford under whose supervision the study was undertaken.

(*) The Committee was convinced that additional expenditure required to establish a Research Council for the Social Sciences and comparable to those already existing for other Science, would in time be more than repaid by improvement in the efficiency for the national economy and in the quality of our national life (Heyworth Report 1.70)

3. To carry out research in social sciences.
4. To make grants to students for post-graduate instruction in the social sciences.
5. To provide advice and disseminate knowledge concerning the social sciences.

Since its inception in 1965, the Council's activities have expanded to cover a wide range of areas of study concerning human and social behaviour. At present, the Council provides support for research in a number of disciplines viz. accountancy, criminology, demography, economics, economic and social history, economic and social statistics, education, geography, industrial relations, management, planning, political science, psychology, psycholinguistics, public administration, science policy, social anthropology, social forecasting, sociology, socio-legal studies, socio-linguistics and aspects of linguistics concerned with social science management.

Types of award

There are two types of award by which substantive researches are founded by the Council. These are 'Research Initiatives' and 'Research Grants'. The former implies participation in a programme initiated by the Council and the latter is in response to applications from researcher.

(I) *Research Initiatives:* The Council constitutes different panels to advise on a possible initiative and to identify priority areas of research in a given field. After acceptance of the report of the panel research is commissioned by the council. Such initiatives may also be made by other bodies and then appraised or implemented by the council. The awards under this category may be distributed within a coordinated programme of work undertaken by a team of researchers from one or more than one institution.

(II) *Research Grant Scheme:* This is the major scheme of the Council for supporting research. The research grant scheme applies to United Kingdom Universities, polytechnics, colleges and independent research institutes approved by the Council. Applicants must be members of staff of U.K. Universities, polytechnics, colleges or recognised independent research institutes, or have been ordinarily resident in the U.K. Channel Islands or Isls of Man for atleast three years immediately preceeding the date of application. Applicants registered for a higher degree on a part-time basis are eligible to receive the grant but full-time post-graduate students are ineligible. Grants are given to the institutions and not to the individual applicants direct.

The following grants are available under the scheme of 'Research Grant':

(a) *Research Project and Programme Grants:* The Council's 'Research Project' and 'Programme' grants are primarily intended to provide initial support for new ideas and research work, particularly where a new contribution to theory or method is likely to result, or where there may be important applications.

(b) *Research Project Grant:* Applicants for 'Research Projects Grants' upto £ 20,000 are encouraged from the young researchers with a limited research experience such as those awarded a higher degree. Applicants without a higher degree are not, of course, precluded from applying. These grants are also available for preliminary, pilot or feasibility research. Applications for 'Project Grants' upto £ 20,000 are dealt with by correspondence while applications for grants from £ 20,00 to £ 100,000 are considered by Committees constituted by the Council. The decision is taken by the Council on the recommendation of the Committee.

The duration of the project grant is normally upto 5 years. If the research is to be continued after the stipulated period it should be supported by the institutions in which it is carried out.

When an application for support of a 'Research Project' of over £ 1,00,000 is received,

a meeting with the applicant and members of the various standing Committee(s) is arranged to have discussions with the applicant on the proposed research and to advise the applicant to make changes in the proposal if the Committee thinks desirable.

(c) *Programme Grants:* A 'Research Programme' is wider in scope and involves several inter-related studies. It consists of several coherently linked research themes which possess a common theoretical framework. A 'Research Programme' is fexible in character. As the work of the 'Programme' develops, marginal subjects within the 'Programme' may be changed or dropped completely or new projects included. Since it consists of linked projects, it involves team work.

As the organisation of 'Programme research' is more complex than 'Project work' the council has evolved a special procedure for taking decisions on it. When an application is received for support of a 'Programme grant' a meeting is rranged between the applicant and the members of the various committee(s) constituted by the Council for discussion. The committee may advise certain changes in the proposed research to the applicant if the committee thinks it desirable.

A 'Programme grant' is normally awarded for a period of 5 years. The council experts that if the research is to be continued after the stipulated period, it will be supported by the institution in which it is carried out.

Finance and Expenditure

'Project' and programme Grants' are not intended to meet the entire costs of research. The conduct of research supported by the Council therefore involves extra expenditure by the institutions also. Generally grants are provided for the following items:—

(i) If the Council thinks it necessary for the success of 'Project' or 'Programme' for the staff to work on the research themselves, payment of all or part of the salaries of established members of staff of universities, polytechnics or colleges is done by the council.

(ii) Payment for research workers of technical, clerical and secretarial assistants.

(iii) Payment of interviewers.

(iv) Payment of local informants in cash or in kind during the fieldwork outside the U.K., where their cooperation is considered essential for the research.

(v) Assistance in preparation of material for computer processing.

(vi) The cost of senior social scientist from institutions abroad for full-time assistance. They may be attached to the investigators normally for a period upto one year.

(vii) Fees for consultants who are not members of the grant-holding institutions.

(viii) The cost of materials and apparatus required for the research which cannot be provided by the institutions where the research is being carried out.

(ix) The cost of travel and subsistance at home or abroad which is directly concerned with the research.

(x) Depreciation and running costs of a vehicle when the use of such transport has been agreed by the council.

(xi) The cost of holding conferences which are considered as an integral part of the research.

(xii) In exceptional cases the council may consider requests for additional funds to meet the cost of producing additional copies of the end-of-grant report for distribution to individuals who have assisted in the research.

Personal Research Grant

The Council's 'Personal Research Grant' scheme is intended to enable the scholars to work full-time for a period of five years on a specific topic freed from their normal duties. The grant is given to a limited number of established staff in United Kingdom Universities, polytechnics, colleges of education and colleges of further education.

The period of 'Personal Research Grant' is minimum three months and maximum five years. The assistance under this scheme is limited to £ 1,000 per annum or if the project is for a period of less than a year, £750 per annum.

Under 'Personal Research Grant' the assistance is given to meet the cost of the applicants' salary including superannuation, any contribution to be made by the employer under statutory regulations or enactments and any increment falling due within the year of award. In addition to this some secretarial assistance and travel expenses may also be granted by the Council. If the award is made for more than 18 months, support for staff may also be sanctioned by the council.

The important feature of the 'Personal Research Grant' is that the Council may require awardees of the grant to give public seminars financed by the council, in order to bring the work being done by the researcher to wider attention. They may be asked to participate in seminar once in a year.

Procedure for considering applications for the Research Grant *scheme of the Council*:

Application for the various schemes of the Research Grant as considered by the Council on the advice of the various Committees constituted by the Council. The Council has constituted the following Committees:

(i) Social affairs
(ii) Education and human development
(iii) Industry and employment
(iv) Economic affairs
(v) Environment and planning
(vi) Government and Law
(vii) Research Resources and methods.

Applications for 'Project grant' from £20,001 to £1,00,000, 'Programme Grants' of over £1,00,000 and 'Personal Research Grants' are considered by these committees. A meeting is arranged between the applicant and members of the Committee (S) for discussion. The Committee may advise the applicant to make certain changes in the proposed work, if it is found desirable. The decision is taken by the council on the recommendation of these committees.

Applications for 'Project grants' upto £20,000 are dealt with by correspondence and are not normally considered by these committees.

Final Report

All recipients of SSRC research grants and awards are required to submit progress reports annually indicating that the work is being done as per the schedule and according to plan. The annual report should also indicate the work to be done during the ensuing term.

The final report should be submitted by the investigator within three months of the completion of the project. These reports establish a definite record of work done, with the results achieved and a list of any publications, whether monographs, journals, articles or books.

The final report is assessed by the subject Committees of the SSRC and the majority of the reports are filed in the British Library lending Division, from which they may be borrowed by application to any library.

The following tables show the research grants applications received and grant sanctioned and the research funds committeed by subject areas during the year 1980-81: (*)

RESEARCH GRANTS AND APPLICATIONS

1st April, 1980—31st March, 1981

	Applications		*Grants Awarded*		*Success rate by value*
	No.	*Value £m*	*No.*	*Value £m*	
Research Programmes and large projects:	11	1.84	4	0.42	22.8
Projects	328	13.22	99	2.84	21.5
Projects (upto £20,000)	470	4.97	226	1.58	31.8
Personal Research grants	75	0.89	35	0.40	45.0
	884	20.92	364	5.24	121.3

(*) SSRC Annual Report 1980-81

RESEARCH FUNDS COMMITTEED BY SUBJECT AREAS AS AT 31ST MARCH, 1981 (*)

	%	1979-80
Computing and the Social sciences	2	(2)
Economic and Social History	11	(9)
Economics	22	(21)
Education	9	(11)
Human Geography & Planning	9	(9)
Law and Social Sciences	1	Less than (1)
Linguistics	2	(3)
Management and Industrial relations	6	(9)
Political Sc. & International relations	6	(7)
Phychology	13	(14)
Social Anthropology	3	(2)
Sociology & Social Admn.	11	(10)
Statistics	3	(2)
Transport	2	(—)

(*) SSRC Annual Report 1980-81

Designated Research Centres of SSRC

It will not be out of place to mention that SSRC has established six Designated Research Centres on (1) Industrial Efficiency (2) Labour Economics (3) Urban and Regional Development (4) Early childhood Development (5) Survey Methodology (6) *Demography*. These centres definitely add to the SSRC's resource to sustain and develop timely research and to provide new or more research capacity in areas of economic, social and scientific concern.

Nuffield Foundation

The Nuffield Foundation was established in 1943 by Lord Nuffield as a charitable trust and endowed it with ordinary share units in Morris Motors limited to the value of £10,00,000. Following are the three main objectives of the Foundation:

(1) The advancement of health and prevention and relief of sickness..... in particular .....by medical research and teaching and by the organisation and development of medical and health services.
(2) The advancement of social well-being.....in particular..... .....by scientific research and the organisation development and improvement of technical and commercial education including the training of teachers and provision of scholarships and prizes.
(3) The care and the concepts of the aged poor.

The trustees of the Foundation adopt flexible policy in awarding grants. In general, grants are given under the following categories:

1. Science
2. Medicine
3. Social research and experience, education
4. The care of old people.

Fellowships are offered in specific areas of the Foundation's interests.
In respect of social sciences grants are given under the following schemes:

(1) *Small Grant Scheme:* Grants are awarded under this scheme to teachers in universities, polytechnic and research institution in Britain who wish to undertake self-contained research projects for a period of three years. Research students or others working for a higher degree are not eligible to receive this grant. A grant upto £3,000 is given to the investigator under this scheme. Grants are provided to meet the cost of (i) Part-time or short-term assistance (ii) research material (iii) travel within the country or over-seas.

The following subjects are covered under the Scheme:

Economics, Political Science, Social Administration, Social Anthropology, Social Psychology and Sociology, Studies within education,Geography History and Law are also included in so far as these constitute Social research.

Awardees are expected to publish results of their research in the normal way and a copy of the same should be sent to the Foundation. Acknowledgement to the Foundation should be made in any publication resulting from the research and where possible in any newspaper article and sound or television programme.

The procedure for selection of projects is decided by the Foundation. Usually the project received from the investigator is referred to one expert for his/her comments. On receipt of the comments from the expert, it is placed before a Committee consisting of two Trustees who are expert Social Scientists.

The Final report should be submitted by the investigator within three months of the completion of the project.

During the year 1980-81 the position of projects sanctioned under the Scheme is given below:—(*)

Year	*No. of Projects approved*	*Grants Sanctioned*
1980-81	100	£1,57,172

(II) *Social Science Research Fellowships:* The Foundation offers a limited number of fellowships in social Sciences on a competitive basis. It is primarily intended to encourage members of teaching staff of universities and polytechnics to devote themselves full-time to research by making them free from the pressure of teaching and administraiive duties.

The duration of the award is minimum one term and maximum one year. However, in exceptional cases it can be upto two years.

On the basis of the competition, candidates are selected for the award. The Foundation meets the research expenses together with the salary of the substitute teacher appointed in place of the awardee. The institution is supposed to pay the salary to the fellow selected during the fellowship period.

At the end of the fellowship, the fellow should submit a report consisting of 750-1000 words to the Foundation stating clearly how he spent his tenure of fellowship and what, he considers, has gained from it. If the award is for two years, a report of the same length should also be sent at the end of the first year.

The position of fellowship awarded by the Foundation during the year 1980-81 is given below:—(*)

Year	*No. of Fellowships awarded*
1980-81	6

(III) *Working parties and specialist conferences in the Social Sciences:* The Foundation also provides support to social scientists to convene working parties or small conferences of upto 30 people in which particular lines of research can be intensively discussed with colleagues from the U.K. or over-seas who are actively engaged in similar work.

Grants are given to meet the expenses such as travelling (where this cannot be met by the participants' own institution) board and lodging and secretarial assistance. Grants are normally limited to £1,00.

The subjects covered under the scheme are Economics, Political Science, Social Administration, Social Anthropology, Social Psychology and Sociology, Studies within Education, Geography, History and Law are also included in so are as these are examples of Social research.

A report should be sent to the Foundation after the end of the meeting alongwith the proceedings of the meeting and also indicating the assessment of its success. A list of partiPants should also be attached with the report. The position of the awards made under the Scheme during the year 1980-81 is given below:—

Year	*No. of Proposals approved*	*Grants sanctioned*
1980-81	21	£17,788

The Leverhulme Trust

The Leverhulme Trust was established under the will of the first Viscount Leverhulme following his death in 1925. The income of the Trust derives from its holding of shares originally in Lever Brothers and now in Unilever Limited and goes mainly into grants to insti-

(*) Nuffield Foundation Report—

tutions and individuals for research and education.

There are no geographical limits to eligibility and also no restriction as to the fields of study for which grants may be given:

Grants are given by the Foundation under the following four heads:—

1. Grants to Institutions for research.
2. Grants to institutions for academic inter-change.
3. Grants to institutions for education; and
4. Grants to individuals under schemes administered by the Research Awards Advisory Committee. Universities, Polytechnics and other institutions of highe and Further education and registered charities in the United Kingdom and Institutions or organisation over-seas which enjoy similar status are eligible to receive first three classes of the grant mentioned above.

Schemes under the fourth category of grant mentioned above are the only source of awards to individuals.

(1) *Grants to Institutions for Research:* Major portion of the income of the Trust goes to the "grants to institutions for research". The Trustees do not undertake any research programme themselves. They identify areas of study which they consider, require special encouragement and wherein projects of good quality are sought out and researchers of proven ability encouraged. Generally, they are open to anyone who shows originality and imagination and which promises to contribute to knowledge.

The Trust gives preferences to research of a good quality aimed at Economic development and in particular the advancement of the British economy. In all fields, other than the fine arts and the humanities, the Trust favours projects directed towards the creation of wealth and increased efficiency in the use of resources.

Grants under this scheme are sanctioned for a short period. The maximum period for which the grant is given is five years.

The assistance is provided for research fellowships, research assistantships and the like to carry out the project. In addition, to this item such as clerical assistance, travel and subsistance, postage etc. are also admissible within limits. No assistance is provided for publication of the results.

(*ii*) *Grants to Institutions for Academic Interchange:* The Trust is of the opinion that academic interchange helps in spreading the knowledge and in creating international understanding. With this end in view, the Trust provides Visiting Professorships, fellowships and studentships between the United Kingdom and other countries, among commonwealth countries and between Commonwealth and foreign countries.

The duration of the period of assistance under this scheme is limited to a period of 5 years in the first instance. It can be renewed upon review, with or without amendment, depending upon the success of the scheme. Under this programme the following schemes are included:

(1) Visiting post-doctoral fellowships from Universities in Commonwealth, U.S.A. and South Africa to universities in the British Iales on the nomination of the host universiy by rotation.

(2) Visiting post-doctoral fellowships to universities in the U.K. for scholars in pure and applied sciences from universities and academics of science in East European countries.

(3) Visiting fellowships to U.K. institutions for scholars in Social Sciences from Latin American countries, nominated via the O.D.E.C.D.

(4) Visiting professorships to overseas countries for British scholars in the Humanities and Social Sciences.

The Trust is always keen to initiate new schemes of academic interchange between the United Kingdom and other countries and within the commonwealth.

(*iii*) *Grants to Institutions for Education:* The Trust also provides assistance for teaching fellowships in support of innovations in curriculum or educational methods which are of general interest. Grants for teaching fellowships are given normally for a period from three to five years.

Applications for the award of teaching fellowships should be made in about 1000 words giving full information about the context of the project for which grant is sought and its objectives, its significance in advancement of knowledge or benefit to the community, the resources available and the resources required along with a methodological appendix suitable for professional reference.

Grants to Individuals

The trust provides grants to individuals under specific schemes which are administered by different Research Advisory Committee. Following are the schemes under which grants are provided to individuals:

(*i*) *Research Fellowships and Grants:* Research fellowship and grant scheme is primarily intended to give assistance to senior persons pursuing research. Those educated in the United Kingdom or other part of the Commonwealth and who are normally resident in the United Kingdom are eligible to receive his grant. The Trust does not lay any limitation regarding the subject of research.

The duration of the period of award is from three months to the maximum of two years. The amount of award vaies but does not normally exceed £ 4,800.

(*ii*) *Emiritus Fellowships:* These awards are meant to assist persons who hold or have recently held academic position in universties, or institutions of similar status in the United Kingdom and who are about to retire or have recently retired. The grant is awarded to help the person in completion of research already begun. Persons with an established record of research who have recently retired and wish to take up a new project can also be considered for the award.

The duration of the fellowship is one or two years and are not thereafter renewable. The amount of each award varies but normally does not exceed £ 3,500 per year. The assistance is provided to meet the incidental costs, no allowance or supplementation of pension is provided.

(*iii*) *Study abroad student ships:* The trust awards 'study abroad studentship' award to a limited number of candidates annually for advanced study or research at a Centre of learning in Europe or any other part of the world except U.K. and U.S.A. No subject of study is excluded under this award.

The application must be a first degree graduate of U.K. University. Holders of, CNAA degrees or those able to show evidence of equivalent education are also eligible for the award. They must have been educated in U.K. or in other parts of the Commonwealth and should be below the age of 30 years on 1st October in the year of the award and normally resident in the U.K.

The normal period of award is one or two calendar years. The amount of award is £ 4,300 a year.(*)

Conclusion

Social Sciences research in U.K. is carried out in Universities, polytechnics and colleges and also by professional association, independent institutions, Government departments and commercial and industrial firms as mentioned earlier. The estimated

amount spent on social sciences research is £25 m to £ 30 m per year. Social Science Research Council (SSRC) is one of the largest funding agencies in U.K. for research in social sciences. Since its inception, the SSRC's activities have expanded and cover a wide range of studies concerning human and social behaviours. The major part of SSRC's research funding is through the Research Grants Scheme, by which assistance is provided for Research projects initiated and prepared by academics from their own knowledge and experience of needs in the social sciences.

The two foundations taken under the study are playing important role in encouraging social sciences research.

An important part of the Nuffield Foundation activities is the 'small grant scheme'. The intention of the trustees by introducing this scheme was that it should be used for small pilot studies. The trustees are sufficiently convinced of the effectiveness of this scheme, in relation to its cost to respond to the demand and the grants made to the scholars. Leverhulme Trust is doing remarkable job in encouraging institutions and individuals for social science research. There is no restriction as to the field of study for which grant may be made by the TRUST and there are no geographical limits to eligibility. Study abroad studentship scheme' is an important scheme under which a student goes to a centre of learning in Europe or any other part of the world except U.K. and the U.S.A.

L.S. Mehra

ORIENTATION PROGRAMMES IN MANAGEMENT OF UNIVERSITY FINANCES

The need for orientation programmes in the management of university finances has been felt for a long time. The Kothari Commission focussed the attention on training needs in educational administration and UNESCO sponsored Asian Institute for Educational Planners and Administrators became National Staff College. Prof. M.V. Mathur, heading NSC, himself having been a Vice-Chancellor, Professor of Economics & Public Administration and a member of Kothari Commission of 1964-66, appreciated the need for orientation programmes for university finance officers and got the collaboration of UGC and Faculty of Management Studies of Delhi University. Consequently, National Institute of Educational Planning and Administration, as it is called at present, has run three programmes of 12 days duration each in 1976 & 1977 and 60 universities were covered.. Recently, more universities have been covered in a new series in which 4th orientation programme took place between 5th-9th August, 1985. The duration of programme has been cut short to 5 days so as to enable Finance Officers themselves to participate in such programmes who could not have done so otherwise due to long period of 12 days for which F.O.'s could not afford to be away from their headquarters.

The enormous expansion in the university system in India has not made the emergence of orientation programme a day too soon what with the expansion of universities from less than 50 in 1961-62, 139 (including deemed one) in 1983-84 and with the colleges growing from 1783 to 5246, no, of students from 6,63,661 to 33,59,329, it is not surprising that the scale of activities should have increased enormously and became more complicated than before. Expenditure on university & other higher education has also increased with, pressure on resources appearing consequent upon competition from other sectors within education and from outside. It is not therefore surprising that the need for innovation in financial management is felt.

In order to adopt such innovative practices, financial management has to be taken note of in its operational and organisational context.

In its operational context, one notices the need for changes in the content, the intent, the methods (skills and techniques) and the organisational position of Finance Officers. The slow pace at which changes are coming about makes it necessary to have such orientation programmes. In its organisational context, one can notice the vast changes in the nature of operations—with the mixture of teaching, research and extension changing—the size of operations expanding enormously and the stage of development of each university differing from each other. It is in the above context, that the interest, orientation and professional know-how of the person heading financial administration becomes important and the training need has to be appreciated.

The objectives of the orientation programmes. were:

1. to enable the participants to appreciate the role of education in general and higher education in particular in the socio-economic development of the country;
2. to promote an awareness of the techniques of modern management in general and financial management in particular especially from the point of view of their applications in University Financial Administration.
3. to assist in the identification and understanding of the new role and responsibilities of Finance Officers in development of universities.
4. to develop in them better comprehension of the existing system of financial administration in Indian universities particularly in the context of changing administration of higher education in India.

In order to achieve the above objectives, a number of panel discussions and lecture discussions and seminars were held. The participants had also the opportunity of meeting and discussing many problems with officers in UGC, Delhi Universty, Ministry of Education, Planning Commission and computer centre. The topics chosen for discussion were the following:

1. Planning of University System
2. An Overall view of University Finances in India
3. Management of physical and financial resources in the university.
4. Expenditure & cost analysis of universities.
5. Budgeting Reforms for universities.
6. State government, grants in aid to universities.
7. Cash flow analysis.
8. Auditing in universities.
9. Indicators of Financial health of universities.
10. Computers in financial management of universities.

Methodology and Training Materials

Normally, a major difficulty in running orientation programmes has been lack of suitable training materials. Fortunately in this area a number of case studies of university finances has been commissioned by Indian Council for Social Sciences and Research and summaries of such studies were used extensively for discussion. Papers were prepared analysing the latest data on university development in India andin addition some other published material also were compiled together as Reading Materials. Such a reading material was distributed to the participants right at the beginning. Some special features of all these programmes have been the collection and compilation of at least 5 problems by each of the participating universities and their discussion in planning session. Such presentation enabled the officers to develop a compasative, perspective of the problems of the universities and experiences among one another. Another feature of the programme particularly, the latest one, is the practical exercixe on the preparation of performance budgeting for each university. A third features is the preparation of practical exercise on the financial health of the universities on the basis of several ratios like income expendi-

ture, enrolment etc. The fourth feature was to introduce the participating F.O.'s to the importance of possibilities of computerising the accounts and all financial transaction so that modern management practices can be introduced.

It would be worthwhile to consider the major findings on the financial position of universities as revealed by the information brought with them by the finance officers. They relate to the income and expenditure position of universities, the grants in aid provided by state govts., & UGC, the system of financial administration, the process of budgeting and the role and functioning o F.O.'s in financial management. The financial health of the universties has to be looked into far more carefully than is being done now if a crisis situation that already exists is not be aggravated. With shortage of finances for education as a whole, and with the declared objectives of 7th plan to raise standards, to equalise educational opportunities, to restructure the courses of studies and make them relevant to the needs of development by their practical orientation and greater relevance and introduces extension as an integral part of education[3] (UGC Annual Report P-38, 1983-84) there is no alternative but to try to gather more resources from non-govt sources and to make more effective use of available resources, for the latter purpose, the entire approach to financial administration has to give way to a managerial approach which consists in looking at financial problem from a problem solving, management, decision ma king and change point of view. Of course for this purpose, there has to be better planning in the universities. At pre-planning stage, there has to be collection & compilation of financial and cost data, at planning stage costing of targets and budgeting and at implementation stage arrangements for handling of cash, proper accounting, procedures. These pre suppose the existence of relevant codes[3] NIEPA has published model codes.

Financial Situation in Universities

The most important single problem in university finances was shortage of financial resources.[4] (data brought by Fo's). It is reflected in the growing deficits of universities. Only a small number of universities had average expenditure less than average receipts. Many have to spend more, than the receipts. Madras University had to have overdraft of 200 lakhs between 1981-82 & 1983-84 for maintenance of academic departments, Mysore University received in 1984-85 block grants of only 402 lakhs while it had to spend 557 lakhs on salaries of staff only. In 1986, Bombay University is expected to have a deficit of Rs. 156.891 lakhs .

The main sources of income for universities have been grants from state government, UGC, tuition fees, examination & other fees, private donations, sale proceeds of publications etc. Income from fees has not been increasing fast though enrolment has been rising. The State Government grants are far too inadequate because the total expenditure of universities and their emerging needs are not taken note of in the determination of grants. It will be desirable to take note of the unit costs of different universities in determining grants.

The unit costs worked out very crudely for different universities show large variations. Of course, the situations in universities is widely different and hence unit costs are bound to vary. State govts. should take note of such variations and the determinants of such variations before determining grants in aid. The universities also should work out from time to time unit costs as accurately as possible for submission to state grants and UGC's.

It has been remarked that 'A School is a cost accountant's nightmare a labour, intensive non-profit making, service organisation, with ill definied objective[5], with concerted and unqualifiable outputs and ill costed inputs in a straight jacket, 1with an arthritic lack of flexibility in buildings and staff[6] (P-17-A Small pinch of theory in managing second finances Brian Knight, 1984).

The same can be said about cost in universities and colleges and the earlier this situation is rectified the better it would be for financial management. The per-student cost

for Gujarat Vidyapeeth Ahmedabad was as given below for:

1980-81	3787 Rs.
1981-82	4074
1982-83	4242
1983-84	3745
1984-85	3663

Kasi Vidyapeeth had in 1982-83 & 1983-84, 1660 Rs. and 1665 as cost per regular student. Krishna Deva Raya University had the following per student costs:

1980-81	4156 Rs.
1981-82	5087
1982-83	5321
1983-84	5172
1984-85	5883

Banaras Hindu University had worked out per student expenditure by items as given below:

A.	Establishment expenditure:	
	1. A ministrative Offices	Rs. 6839
	2. Hostel	Rs. 592
	3. Auxiliary units	Rs. 1786
	4. Health services	Rs. 543
B.	New Establishment	
	1. Academic expenditure and student facilities	Rs. 668
		Rs. 68
	2. Scholarships & fellowships	Rs. 224
	3. Library facilities	Rs. 241

Working out such unit cost both in aggregate and by items will be quite useful for inter university comparisons and change over time and universities should be encouraged to work them out.

Certain universities like Saurashtra had analysed the budgets in terms of functional as well as economic classification. It may be noticed that only 30% is being spent on academic Services while 48.60% is being spent on general services in that university.

Saurashtra University Functional Classification.

	Year 1982-83
1. Academi services	30%
2. General services	48.6%
3. Welfare services	10.6%
4. Auxiliary services	1%
5. Unbrakable	10.8%[

The economic classification of budget showed that the bulk of the expenditure was on consumption being 75-17%. Only 13.42% was spent on capital formation like buildings etc.

This kind of budgetary analysis by every university will be very informative and help to improve the process of discision making and allocation of resources to different activities in a university.

Are the universities financiallly sound? On the basis of 3 principles of financial soundness suggested by Prof. Panchmukhi (Principles of Financial Soundress University Finances Prof. O.R. Panchmukhi)[6] viz. principle of autonomy adequacy and built in flexibility, we tried to judge whether the universities were sound and concluded they are

not. Due to various reasons Universities do not have the freedom and authority to plan out its course of action and pattern of expenditure of fund. Various constraints prevented them from doing so including the absence of a well drawn up long term plan for their development. There was inadequacy of resources both for short-term and long-term very often, even in the short term because income of universities is irregular, while expenditure was continuous. Therefore the orientation programme highlighted the need for cash flow analysis and other techniques. Nor did the universities have built in flexibility because funds given by UGC etc. were mostly for specific schemes while block grants were inadequate.

By far the most important component of the orientation programmes was a practical effort to convert the budgets of the universities into a performance budget fomrat. Increasingly, need for such a change has been felt.Certain state governments have moved over to a performance oriented budget. As a recent Report of Non-Agricultural Universities of Maharashtra has put it.

"the preparation of a budget is a deeper exercise and is not merely a compilation of income and expenditure figures. It is a far were purposeful and meaningful exercise that links the past, present and future, and balances the needs and resources in a well set out perspective plan,[7] p. 54 Report of the Committee on Non Agricultural University, Maharashtra.

The following steps were adopted for performance budgeting

1. A meaningful functional, programme and activity classification of all activities in a university were attempted.
2. Suitable norms, yard sticks and work units of performance and unit costs under each programme and activity were evolved to make better estimates of financial requirements, later appraisal and evaluation of all activities.
3. Brought the accounting and financial management into accord with the classification.

The following tables & proform as resulted from such an exercise. It may be noticed that there are programme/activity classification, objecti-wise analysis of expenditure and source-wise analysis of financing.

While the above is the structure of the budget, the most important part is the analytital part which include attempts to apply cost benefit or effectivness techniques, PERT etc. It is in this area that we found there was need for considerable amount of research work.

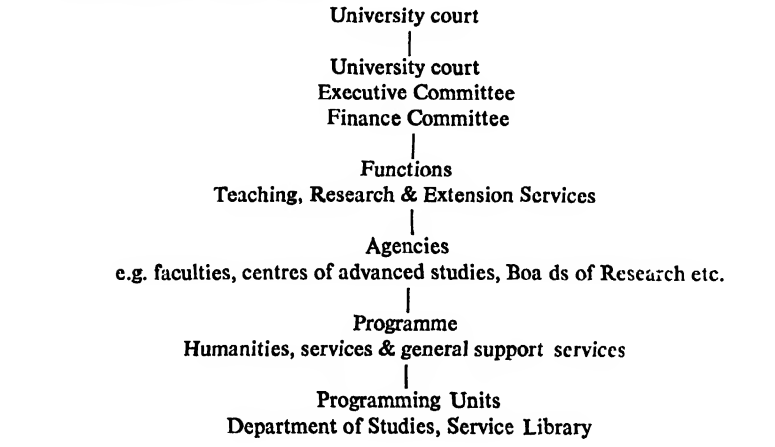
In a situation of searcity of resources, there is need for looking at effectiveness of educational expenditure on different items in the university apart from salaries. For this purpose, there has to be research and studies on Economics of Education, Economics of Higher Education, Micro Economics of Higher Education etc. It is a pity that even after the expansion of education and other social service sectors to a very great extent, interest in the economic dimensions of these activities should not have received adequate attention in studies and research in universities particularly.

Educational Finance in particular has now shaped itself into a respectable field of academic enquiry. In many developed countries greater precession has resulted from utilisation of economitric techniques, computer simulation & public finance concepts. But a major question remains as to what should be the relationship between govt. and non-govt. resources of finance. There can be several kinds of analysis of university budgets. The economic cum financial classification of many university budgets showed that there was a non optimal allocation of function among different items of expenditure. Some of the important functions like academics are given lessor importance than others like administration. Prof. Najundappa has suggested allocation of 60% for academic services, 22% to general service, 15% for welfare services, 2% for auxiliary servi ces & 1% unallocable. One may or many not agree with the above suggestion. But for determining the ideal allocation research on the lines of production functions with different inputs is needed.

One wishes that there is an evaluation in a scientific manner of the orientation pro-

grammes. Of course for every programme, there has been an internal evaluation which has been quite helpful and several positive and helpful suggestions have been given by the finance officers. But it has not been possible to evaluate the impact of the programme on the work of officers or on the system because nearly all the F.O.'s are on deputation from other departments and they have returned to their parent departments. Since there are problems with state govt. & UGC, it can be seen in future that there are as participating officers or as observes some state govt. officers and UGC officers.

An analysis of University set up.



Financial Requirements tables

Classification	Actual 1983-84	Revised 1984-85	Budgeted 1985-86
A. Programme/			
I. Humanities			
1. Arts			
2. Music			
II. Sciences			
Total A			
B. Object wise Classification Salaries			
Equipment etc.			
Total B			
C. Sources of Financing (Different kinds of funds)			
Total C			

Total A — Total B = Total C

C.B. Padmanabhan

Book Reviews

Commonsense about Examinations. Delhi: by Amrik Singh. Oxford University Press, 1984. Pp. 71, Unpriced.

Somehow examinations have attracted the attention of educationists from the beginning of this century, even earlier. There are numerous reports of committees and commissions. A Plan of Action was announced by the Ministry of Education and the UGC in 1972. The UGC again, accounced, a Minimum Programme, only a few years back. There have been many conferences, seminars and workshops on examination reform. The cup seems to be full. Then appears a neat little book by Prof. Amrik Singh, an ex-Vice-Chancellor and ex-Secretary of the Association of Indian Universities. So I gave a hurried glance through the booklet. Then I sat up. It is a different cup of tea. So much has been condensed into so few pages that one must read carefully, and think, and then read again. I heard the voice of a seasoned educationist and a wise man of rare courage of conviction, written in the style of a lecture; and the book is indeed a series of lectures delivered at the BHU. The author speaks through the pages in a lucid style. What the author has described as *common sense about examinations*, is really an unveiling of the truth behind the apparent contradictions between professed intentions and actual behaviour. There are very few honest academics like Amrik Singh, and his sincerity and anguish show through his diction and style. He is characteristically modest when he gave in the title of the book "Common sense". It is not common sense, and that is why his plan of examination reform, put forward in 1971, in a Seminar of the Association of Indian Universities, has to be reiterated by him in 1984 in a series of lectures. But that is the story of examination reform since Hartog's monograph, or report of the Calcutta University Commission. Not that people do not know what is wrong with our examinations in higher education, but hardly anything worthwhile is done to set matters right. The will is lacking, and that is one of the main points made in this book. One can hardly disagree with the author on this diagnosis of non-performance in the matter of examination reform. In this respect, it is common knowledge.

In order to implement any innovative idea in education, one needs a plan of action, which translates theory into practice by operationalising the innovative ideas. It is a littleless than fifteen years now, from the day, when a Plan of Action, with a capital P and capital A, was announced by the Ministry of Education and the UGC, as the author points out. Yet, there has been no

implementation! It seems that in education, implementation of a Plan of Action requires a strategy of implementation. A strategy of implementation of examination reform proposals was not worked out clearly. Taking a clue from agriculture, one can say that farmers are as resistant to change as college or university teachers; perhaps, farmers are a little more resistant. But, farmers did change their inputs, processing and management in achieving a breakthrough in raising crops. This happened because there was not only a plan of action to bring about a change in agricultural outputs, there was also a strategy of implementation. It required a detailed mapping out of a path to a goal through an analysis of the terrain through which the path has to pass. This is where, in examination reform, there were serious short-comings. First, teachers, unlike the farmers, were not clear about the goal itself, and even, were against the goal, as the author points out from his forthright analysis of the vested interests in the examinations system. Whereas the individual farmer earns a profit from the increase on yield per hectare the individual teacher loses in monetary terms for accepting the goal set by the examination reform proposals. It is necessary to work out a strategy of, literally, breaking new grounds, to finally develop a path, through a terrain marked by vested interests, who can be ferocious in their attack on those, who spearhead movements in order to break new grounds. It is not surprising, therefore, that UGC should be inactive after proposing a Plan of Action, and later, even change their stand, as the author has noted. But, there is a difference between a forthright educationist, and an agency which is a part of the Establishment! So, the UGC need not be singled out for inaction, inconsistent action and retroaction.

Amrik Singh's incisive analysis shows that the main problem arises out of our affiliated college system. It is, indeed, a unique system which characterises higher education in our country. The expansion in higher education has not only been of University, since our independence, but also of colleges, particularly private colleges, with which is linked the large and unmanageable number of students, teachers, ill-equipped laboratories, libraries, buildings, and as a matter of fact of all facilities, which are necessary for any recognisable quality of higher education. The plan of examination reform failed at every attempt, howsoever weak it might have been, because of the affiliated colleges. Amrik Singh points out that Radhakrishnan Commission's of quoted lines are on examination reform. They said: "We are convinced that if we are to suggest any single reform in university education it would be that of examination." According to the author, it was a singularly wrong error of judgement on the part of Radhakrishan Commission to have made such a strong statement, which led to a misdirected effort, by American-educated Indian academics, and American academics visiting India, in wave after wave, during the fifties and the sixties. They thought that the American model was the best and would work. But the experience was otherwise. Internal assessment, symester system, objective tests and grading, all failed except in a few cases of notable exceptions, like the IIT. The failure was due to the wrong emphasis on testing placed by Radhakrishnan Commission, in place of teaching and learning. This analysis of Amrik Singh is not quite correct, because learning was not even central in psychology at that time. It was in the early fifties that the writer was a graduate student at the University of Chicago and was working as Bloom's assistant in the Examiner's Office of the University of Chicago, and Bloom himself was just coming out of the massive influence of Tyler's curriculum model as being central to pedagogy.

Secondly, the Commission had quite a few things to say about teachers and instruction. The fact that the country chose to focus its attention on examination reform in the fifties, and not on teaching and learning, indicates that powerful social forces were at work for the maintenance of status quo in education as a whole, including higher education. Already, the affiliated college system had developed in the three Presidency areas of Bengal, Bombay and Madras, even before independence, and Calcutta University was beginning to see the breakdown in its colleges, starting with the impact of 1943 famine in Bengal, politicisation during the freedom struggle, the blow finally coming with the partition of Bengal. I do not think that Amrik Singh

believes that had the British continued, their influence on higher education would have saved us, because although patterned after the British University system, we had indigenised it sufficiently even before the British left us. Besides, as the author himself points out, some of the American ideas were later found to be workable and useful. It is not the source of an idea which make it unworkable. The fact that Karl Marx wrote Das Kapital does not in anyway makes the ideas therein unworthy of consideration. There is some point in Nirad Chaudhury's Continent of Circe, however. The British model of higher education degenerated into the Indian affilated college system, and the American model of internal assessment became a handy instrument for distribution of favours (and even earning some money on the sly) and objective tests became institution of teachers' modiocrity in setting questions, which test memorisation of information.

Examination reform has to be seen and planned in the wider context of the entire education system, and the socio economic-system as well. The socio-economic system generates certain kinds of rewards and punishments which teach people to strive for certain socially desirable goals and avoid certain socially undesirable goals. The education system has a tradition and the system requires a compromise between continuity of tradition and change. A total change in the system is a revolution, not a reform, and such revolution follows a socio-economic revolution Education liberates individuals, and, therefore, it can become subsersive, when the mass of educated individuals reaches a critical point. Only a revolutionary state can, therefore, support a revolutionary education. Otherwise, it will have to be reform. Examination reform is the most innocuous reform, and it catches the public eye, because malparactices are flashed in newspapers. So instead of grappling with the problem of affiliated colleges, we started nibbling at examination reform, until finally, the oft-quoted statement of Radhakrishnan Commission was replaced by a similarly oft-quoted statement of the Education Commission (1964-66): "The destiny India is seeing shaped in her classrooms". The focus also had changed worldwide, from examination or testing to learning and teaching.

Amrik Singh has indeed been a keen observer of the Indian scene in higher education, and he realises that the wider canvas of education provides the main framework for any worthwhile examination reform. He laments over rapid expansion, lack of quality control and resultant deterioration in standards. He identified the following factors that led to deterioration:

A phonomenal expansion in numbers, the medium of instruction, the rise of student power, politicalisation and permissiveness, the evil of mass copying, deterioration at the postgraduate and research levels, and reduced funding.

I cannot resist quoting one or two sentences from Amrik Singh's book where he writes on these factors leading to deterioration, because he is deeply hurt, and his feeling is apparent. Thus, he says, while discussing politicisation and permissiveness, "On the whole, the ethos of work is so lax and, indeed, so permissive in almost all educational institutions, that the academic process gets hurt beyond repair" and again, "The intention here is not to be comprehensive, but rather, to delineate the context in which teaching and learning take place and to make clear that teaching and learning today are in a much less satisfactory state than ever before in the country. Therefore, to repeat, the most important problem in higher education is not examination reform but make teaching and learning more effective and meaningful".

Having made this analysis, it is obvious that the problem is how to improve the quality of teaching and learning. While one can think of various ways of tackling this problem which is mainly with our affiliated colleges, the author, because he was lecturing on examination reform, makes the most important point viz. use item-banking to act as a lever by which to raise the standard of instruction and learning. It is indeed worth considering seriously, because development of item-banks requires involvement of teachers in analysing the syllabus in terms of educational objectives, content, processes of learning and evaluation of learning outcomes. Such analysis is likely to make the teacher aware of shortcomings in his instruction, and motivate him to overcome the shortcomings. In

writing items, based on such analysis, the teacher learns how to look at the structure of knowledg analytically, an achieve clarity and acquire more competence. Item banking requires pre-testing of items on samples of student population from which are derived item statistics, which tell the item writer how effective or good the item is likely to be. Once the item-bank on a subject is released, and it should be published, the students know that structure of knowledge is expected, what are the objectives, contents and processes that they can expect from the course of instruction provided by the college. Both the teachers and the students are then bound by an unwritten social contract to fulfill the expectations. If the students are able to learn all that is required by the item bank on a subject they would achieve mastery of the subject at the first degree level. One should be happy to see that all students reach the criterion. But, it is not likely to happen. At least, the item bank being public; few students, as well as teachers, can find any good reason for taking recourse to malpractices, which the present anonymity and secrecy in the examination system seems to encourage. Even, if examination reform does not take place, item banking is likely to help in the improvement of teaching and learning in the colleges, which is, after all, the most important goal. Amrik Singh's one-point programme of examination reform needs to be considered seriously by everybody.

S.K. Mitra

The Rural University—The Jawaja Experiment in Educational Innovation: By Ravi J. Matthai. Published by Popular Prakashan Pvt. Ltd., Bombay. First published: 1985. Pp. 360. Price Rs. 150.00.

This is a pioneering innovative experiment for rural development carried on in the backward region of Jawaja in Rajasthan for some years by the author along with a team of investigators who were experts in the field of rural development and education. Sponsored by the Indian Council of Social Science Research, New Delhi the field work was done by extensive interviews, dialogues and interactions with the village community as also with the rural elite. The focus of attention of the investigators was to explore possibilities for the establishment of new economic activities upon which other aspects of the experiment, particularly rural education, could be built. As such, the concept of rural university is not an organisation in the structured sense. It has no campus, no teachers, no taught and it does not grant any degrees. It has no formal curriculum, no organisational hierarchy, no office bearers. It has neither an overall blueprint nor a budget.

What then it is remains the question to answer. The study had the objective of creating links between academic institutions and action agencies which deal directly with rural development. An assumption made by the author is that little practical attention is paid in our planning process for assimilation, adaptation, learning, motivation and the involvement of people in developing opportunities, taking initiative, and building new, more relevant and effective operational relationships. This experiment focusses on observing the processes involved in the development of people through learning—learning to manage their income earning activities, learning to organise themselves into viable working groups and learning to manage some aspects of their environment.

The study was carried on for two years and has resulted in the writing of twelve chapters, along with a number of appendices in this book. The content is treated in a down-to-earth manner without any jargons used. It is descriptive in nature, telling us what transpired in the regular dialogues held with village folks. In the process, lot of information regarding reactions of the village community comes to our notice.

The observations made in this experiment raise problems, questions and hypotheses, but are not intended as answers or solutions. The villager's learning relates to him as an individual, to him in relation to other individuals, to groups and to him as part of those groups, and to him in relation to resource institutions. However, such learning is mutual and so the learning process relates to all those who take part in this common experience of building new atti-

tudes and relationships of mutuality. It has been the experience in this experiment that many institutions need to adjust their own modes of functioning and behaviour to those of the villagers. Equally important, organisations that wish to work together in such an effort need to make adjustments in relation to each other's modes of organisation functioning. A lack of consonance can frustrate the desire to collaborate. There is also the need to build a more meaningful and viable developmental relationship between the villagers and the infrastructure, particularly with the village school system and, in endeavouring to create this developmental role, to render the formal educational system more relevant than it is today.

An interesting observation made in the book is that development is not to be understood in terms of the strength of pedagogy. Educating the masses should not be identically equivalent to a well-fed preacher sermonising on, say, the categorical moral imperative to a bunch of ragged, hungry men. "If the villager is not presented with an opportunity to enhance his economic status, he will not respond to education; the tragedy is that if he is presented with such an opportunity he gets so much involved in surviving within the system, or at best, of beating it, that the authentic means to an authentic end is already diluted by a deviation from the professed objective of overthrowing the prevalent system." As such, our approach should be to exploit the local resources of all kinds, to train the villages to equip themselves with more refined and up-to-date technologies of indigenous skills and to make education more functionally oriented. It is also said that we should withdraw the mediating link provided by the rural development agencies between the villagers and the institutions as early as possible so that the villagers conceive no excessive dependence upon them. The existing state of affairs where local leaders hold their sway must be changed for equitable distribution of economic opportunities. But then, it is remarked that it is very difficult to achieve their objective. Unless we do away with the exploitative character of the rural life, it is difficult to usher in a new era of rural emancipation.

Navin Chandra Joshi

Economics of Higher Education in Tamil Nadu: By Rev. P.P. George: Centre for Research on New International Economic Order, Madras. Pp. 176: Rs. 35.

Economics of Education, as a subject for academic investigation, is of recent origin in India. During the last two decades or so, there have been some studies about the various aspects of economics of education, particularly relating to educational finances, education as an investment, manpower, planning, systems of grant-in-aid, educational cost-benefit relationships etc. The number of such studies brought out by the universities and other specialised institutions in India is, however, extremely limited. It is in this context that the study undertaken by Rev. George deserves commendation.

Rev. George's study, according to him, is a synthesis of his dissertation accepted for the Ph.d. degree in Economics by the M.S. University of Baroda. The study relates to economics of post-matriculation college education. The author has sought to examine questions like 'who goes to college'? 'How do differences in Economic background influence choices of various courses by the students'? 'What are the private and social costs of acquiring higher education'? 'How do students finance their education?'.

The study has been divided into nine chapters including introduction. The first chapter examines the role of education in economic development with special reference to higher education. The next three chapters discuss the growth of higher education in Tamil Nadu, public expenditure on higher education and socio-economic factors affecting access to higher education in Tamil Nadu. Chapters five and six analyse the private expenditure of college students and the system of financing of higher education in Tamil Nadu. Chapters seven and eight seek to evaluate factor costs of higher education in Tamil Nadu and rates of return to higher education in that state. The last chapter contains summary and conclusions emerging from the study.

Rev. George has come out with some interesting details about the system of higher education in Tamil Nadu. An important finding of the study is that the rate of growth of enrolment at the university stage

in Tamil Nadu has been less than that in India. It has also been found that the preponderance of university enrolment is in general education courses. But, according to the study, in Tamil Nadu state, the proportion of students pursuing science courses was more than that in India as a whole.

Another important finding of the study is that there is negative correlation between the State Net Domestic Product (SNDP) and educational expenditure. The SNDP and enrolment at the middle and secondary school stages are however, significantly correlated.

It is also distressing to find out that the proportion of direct expenditure on primary and middle school education to the total direct expenditure on education has declined. This may be due to the decline in enrolment at the school stage but the problem needs to be considered seriously.

Another important finding of this study is that the per student expenditure at the school stage has increased modestly at constant prices but it has declined by 12 per cent at the higher education stage. This shows that in real terms the financial inputs in higher education are not commensurate with the increasing demands for educational facilities at the university stage.

It has also been noticed that government is emerging as the largest source of finance for higher education. The contribution from fees and other sources has perceptibly declined.

In order to find out the coverage of various categories of students in institutions of higher education, the researcher has attempted to work out 'coefficient of equality.' The results of this analysis are quite interesting. It was found that students from rural areas had only about half as much chance of going to colleges as those from the urban areas. By the same token, the scheduled caste students had only 25 per cent chances of going to colleges.

The analysis has also revealed that about 47 per cent male students in general education courses and 40% in professional courses belonged to households with income less than Rs. 400 per month. The corresponding percentages for women students were 38 and 24 respectively. It has also been found that the higher education system in Tamil Nadu is highly subsidised through the government schemes of National Scholarships and Loan Scholarships etc.

The researcher had also attempted to estimate the rate of returns to higher education in Tamil Nadu. He has tried to find out the internal rate of returns for the private costs of higher education and the benefits from it. The NSS data have been used for the analysis which are far too inadequate for the purpose and hence the internal rate of returns which has been worked out to be 7.7 per cent seems to be much away from reality. It is noteworthy that the author himself is aware of the inadequacy of data and accepts the crudeness of his estimates. It is true that the IRR would further decline if factors like wastage, stagnation, participation rate, unemployment etc. are accounted for in the calculations.

The author has taken pains to collect the data from primary and secondary sources. It has, however, been observed that the data used by researcher are somewhat old. While the survey relating to the socio-economic status of college students was conducted in 1978-79 and therefore, the researcher had to depend upon the data collected in that year, for other variables like enrolment, expenditure, the latest available data should have been utilised.

There are some methodological problems also in regard to the analysis of the data For example, there may be no harm in working out the relationship between SNDP and educational expenditures but working out rank correlations between SNDP the enrolment is rather far-fetched. Further the deflation of costs has been worked out by calculating deflation rates of the Net National Product both in the case of costs in Tamil Nadu and India as a whole. This methodology does not appear to be very convinicing. Instead it would have been more appropriate to use the whole-sale price indices, and cost of living indices relevent socio-economic groups relating to the state of Tamil Nadu.

It is also difficult to agree to the concept of 'opportunity costs' or 'earnings foregone' in the Indian situation where the waiting period for the jobs can extend to five to six years. In such cases, the concept of opportunity costs appears to be only notional in character. In any case, it is difficult to work

out the earnings foregone with a reasonable degree of accuracy.

The author has made some useful observations on the basis of the analysis made in the study. Some of these are:

(a) In view of the declining trend of contribution form the scholars by way of fees, he has suggested that the scholars may be made to pay for their education proportionately to their (parental?) incomes. The question of raising fees at the higher education stages has been considered time and again but so far no worthwhile steps have been taken to implement this suggestion. In the process, a huge amount of subsidy continues to be given indiscriminately to students regardless of their socio-economic status as also their capacity to profit by higher education. It is imperative that some bold steps may be taken to implement this important suggestion.

(b) It has been suggested that the economically weaker sections of the society should also be given financial concessions as available to the students from the socially disadvantaged sections of the society. In other word, financial assistance from the government should be based on economic backwardness, irrespective of caste and creed. Considered from the point of social justice, this suggestion is quite valid. The financial implication of this suggestion will, however, need to be worked out before the programme can be operationalised.

(c) Another important suggestion made by the author is about introducing a policy of compulsory rural service for a certain period by all engineering and medical graduates. This suggestion has been made keeping in view the highly subsidised nature of professional education and non-regulation of the emoluments of these professionally trained personnel. We would only add that the suggestion applies, with equal force, to the non-professional students also. The problems of implementation of this scheme of compulsory rural service on such a large scale will need to be given careful consideration.

To sum up: The study throws interesting light on the various problems relating to financing of higher education, returns of higher education and other related issues. It is a welcome addition to the very meagre literature on this subject and therefore the attempt made by Rev. George is commendable. This study would be useful to the public in general, university and college authorities and the officers of the education departments of the central and state governments, who are concerned with the development of higher education in India.

J. L. Azad

Education Systems Analysis and Reforms with special reference to Agricultural Education Mohan Prakash Gupta, Agricole Publishing Academy, New Delhi. 1984, Pp-161 Price Rs. 125

The emergence of agricultural universities and their subsequent prolifiration is, no doubt, a landmark in the history of professional education in India. These appeared, initially, as trivial occurances, especially before our steel mills, coal mines, railroads and the enveloping biscope. And who cares agriculture, even Lenin put peasents behind the 'vanguards of revolution'. The bewitchment of urban anonymity, rupees in the place of rice and the excitement of new aggregational opportunities in the industrial agglomerations were becoming irresistable to everyone. It was at this point of growing urban-industrial mass hysteria that great men of wisdom and vision (whether it was Pundit Nehru or the Radha Krishnan Commission) were silently laying foundations for modernizing Indian agriculture and related activities. In this respect, the establishment of agricultural universities and the development of modern agricultural education constitute the kind of things which greatmen do to correct possible distortions in the course of contemporary history.

In this kind of effort, no society appears

to be as well suited as the United States of America. The splendour of her achievements in the field of agriculture constitute some of the glorious chapters in modern world history. But, the U.S. experts cannot bring non-American experience to a recipient society. So, it goes with the semester/trimister system which the Americans introduced in Indian Agricultural Universities. As Dr. Gupta points out there are not as many empirical studies on this aspect of agricultural education. And I consider it to take a look back, even if the exercise is for its own value.

Dr. Mohan Prakash Gupta worked on this important area by way of what he describe as 'Suggestive Model' for his doctoral dissertation. A comparative assessment of the relative merits of trimister, semester and the annual system of education was made on the basis of data collected from the respondents (both teachers and students) of select agricultural colleges. Among several other conclusions, the study revealed that the trimister and semester systems of education were more effective than the annual; all categories of respondents except teachers under the annual system preferred the semester to the annual and trimister system; that the merits of the semester over the other two was found to be in relation to the role of a student, physical facilities and examinations; and that more instructional days were worked out under the semester system. In sum, Dr. Gupta suggests a combination of internal and external evaluation systems and overcoming of the resisting factors which impede a congenial teaching—learning environment and co-curricular activities in order to ensure 'definite success of the new systems'. Having made an empirical study with tested research tools, Dr. Gupta would unhesitatingly recommend that ".....the new systems should be adopted in place of the annual system by agricultural and traditional universities."

The semester system was, subsequently, tried in several traditional universities and a number of empirical studies of the sort Dr. Gupta has done were also conducted in regard to its efficacy and consequences. As it happens in the social processes, it is power that determines truth, what is otherwise described as "certified reality". We have all sorts of results, supportive, condemnatory, the so-called value-free stuff and the ones sponsored by those who have "access to the command of major institutions". And importantly, it is useful for the ordinary men to realise that if truth hurts power, we shall change truth and, of course, release the inevitable dissonance reduction exercises. It is in some such way that many of us have gone back to the annual system and that for as good reasons.!

However, such scientific studies as have been made including the one made by Dr. Gupta are valuable in their own ways. In relation to professional education like agriculture, it seems to me that Dr. Gupta's conclusions are useful and deserve the 'recommended' adherence.

Y. Raghaviah

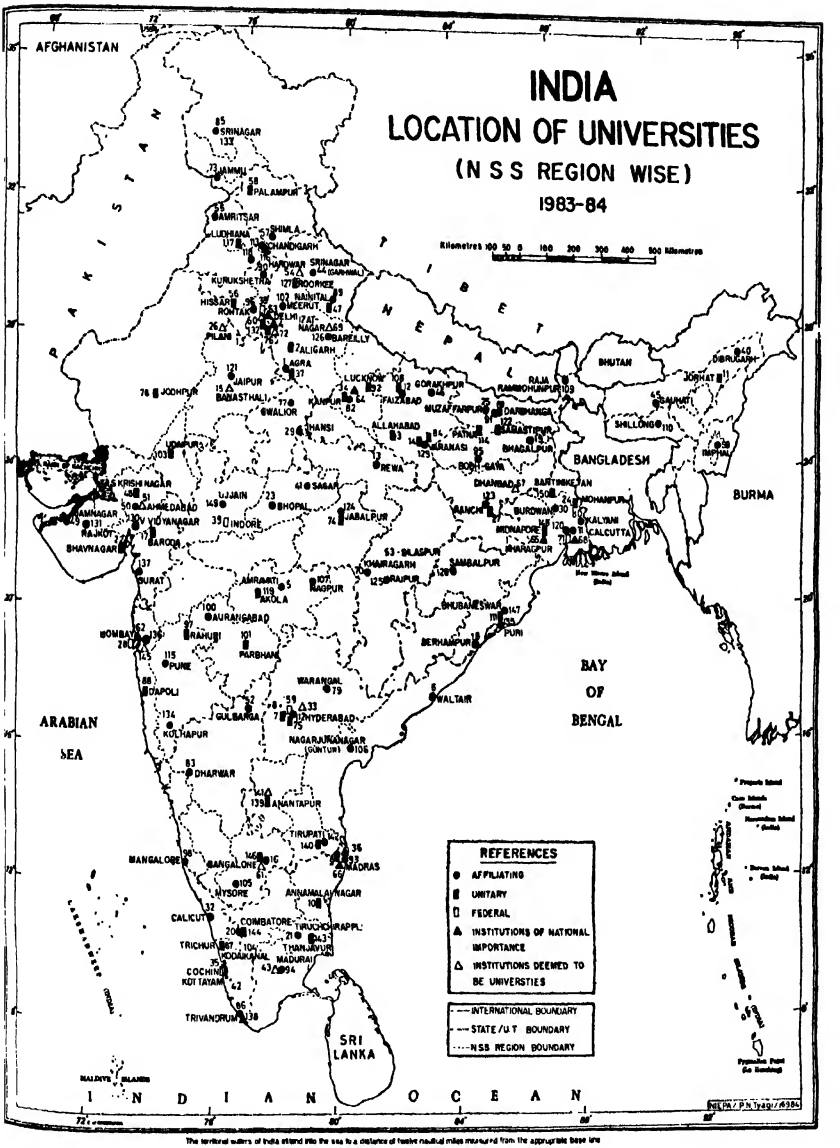

INDIA
LOCATION OF UNIVERSITIES
(N S S REGION WISE)
1983-84
AFGHANISTAN
PAKISTAN
TIBET
NEPAL
BHUTAN
BANGLADESH
BURMA
ARABIAN SEA
BAY OF BENGAL
SRI LANKA
I N D I A N O C E A N
REFERENCES
AFFILIATING
UNITARY
FEDERAL
INSTITUTIONS OF NATIONAL IMPORTANCE
INSTITUTIONS DEEMED TO BE UNIVERSITIES
INTERNATIONAL BOUNDARY
STATE / U T BOUNDARY
NSS REGION BOUNDARY

Fig 1

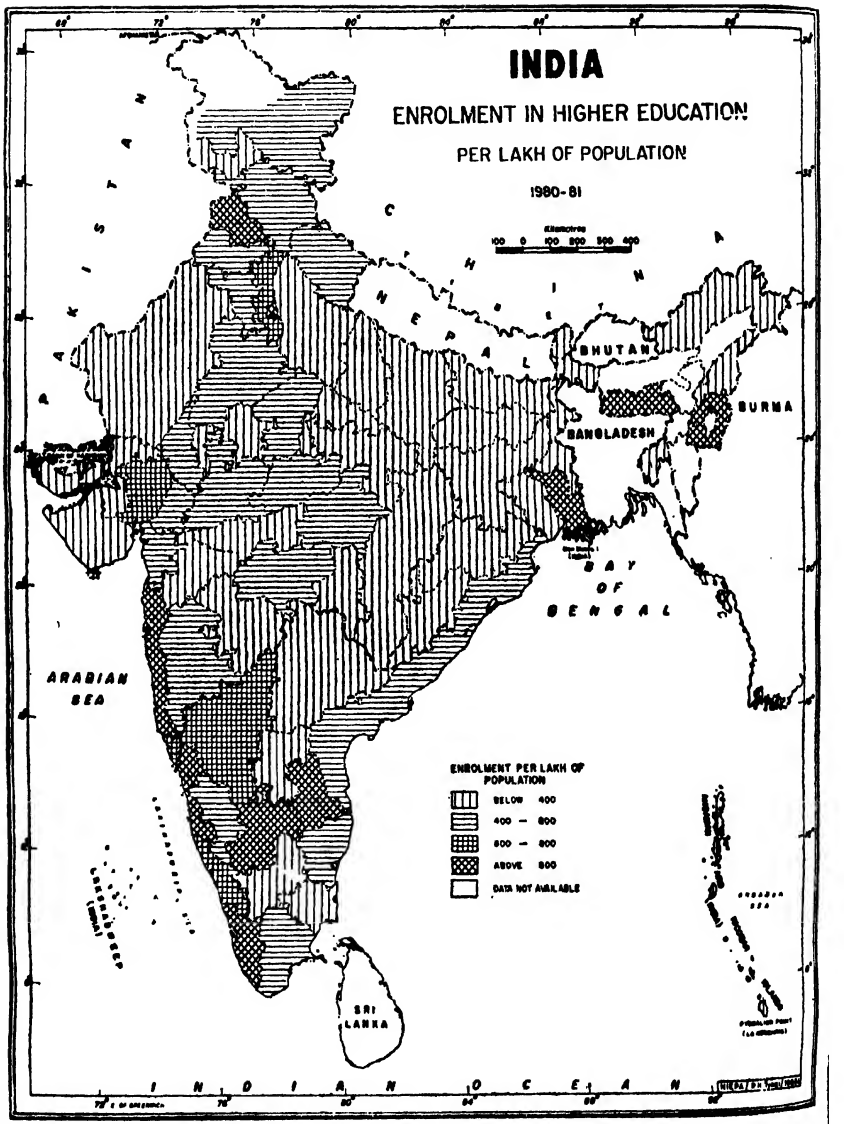

INDIA
ENROLMENT IN HIGHER EDUCATION
PER LAKH OF POPULATION
1980-81
PAKISTAN
CHINA
NEPAL
BHUTAN
BANGLADESH
BURMA
BAY OF BENGAL
ARABIAN SEA
SRI LANKA
INDIAN OCEAN
ENROLMENT PER LAKH OF POPULATION
BELOW 400
400 — 800
800 — 900
ABOVE 900
DATA NOT AVAILABLE

Fig. 2

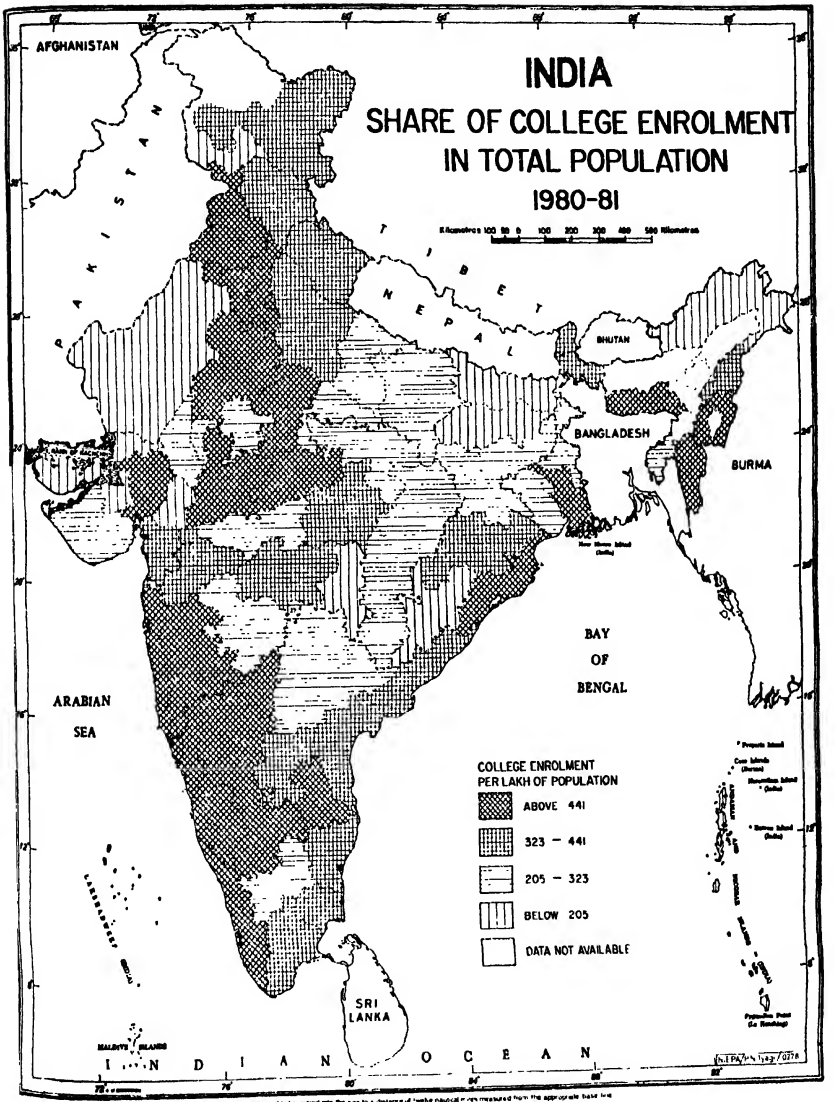

INDIA
SHARE OF COLLEGE ENROLMENT
IN TOTAL POPULATION
1980-81
AFGHANISTAN
PAKISTAN
TIBET
NEPAL
BHUTAN
BANGLADESH
BURMA
BAY
OF
BENGAL
ARABIAN
SEA
SRI
LANKA
I N D I A N O C E A N
COLLEGE ENROLMENT
PER LAKH OF POPULATION
ABOVE 441
323 - 441
205 - 323
BELOW 205
DATA NOT AVAILABLE

Fig. 3

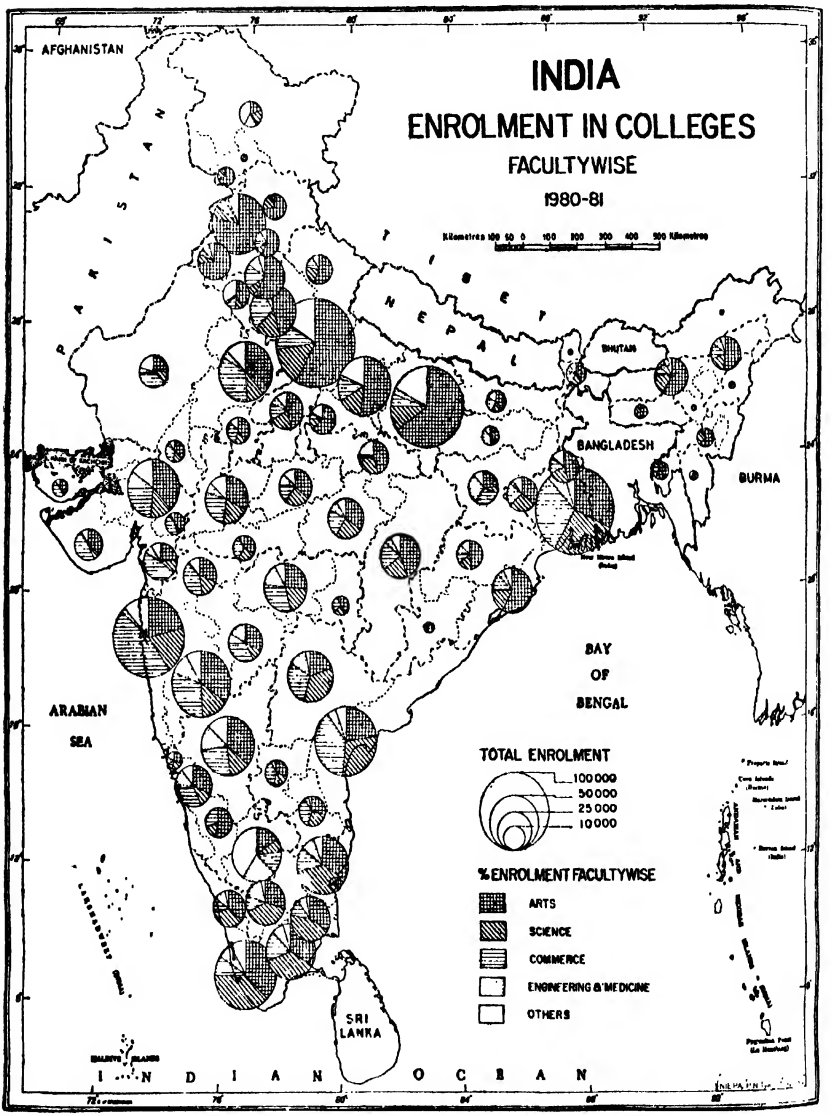

INDIA
ENROLMENT IN COLLEGES
FACULTYWISE
1980-81
AFGHANISTAN
PAKISTAN
NEPAL
BHUTAN
BANGLADESH
BURMA
BAY
OF
BENGAL
ARABIAN
SEA
SRI
LANKA
I N D I A N O C E A N
TOTAL ENROLMENT
100000
50000
25000
10000
%ENROLMENT FACULTYWISE
ARTS
SCIENCE
COMMERCE
ENGINEERING & MEDICINE
OTHERS

Fig. 4

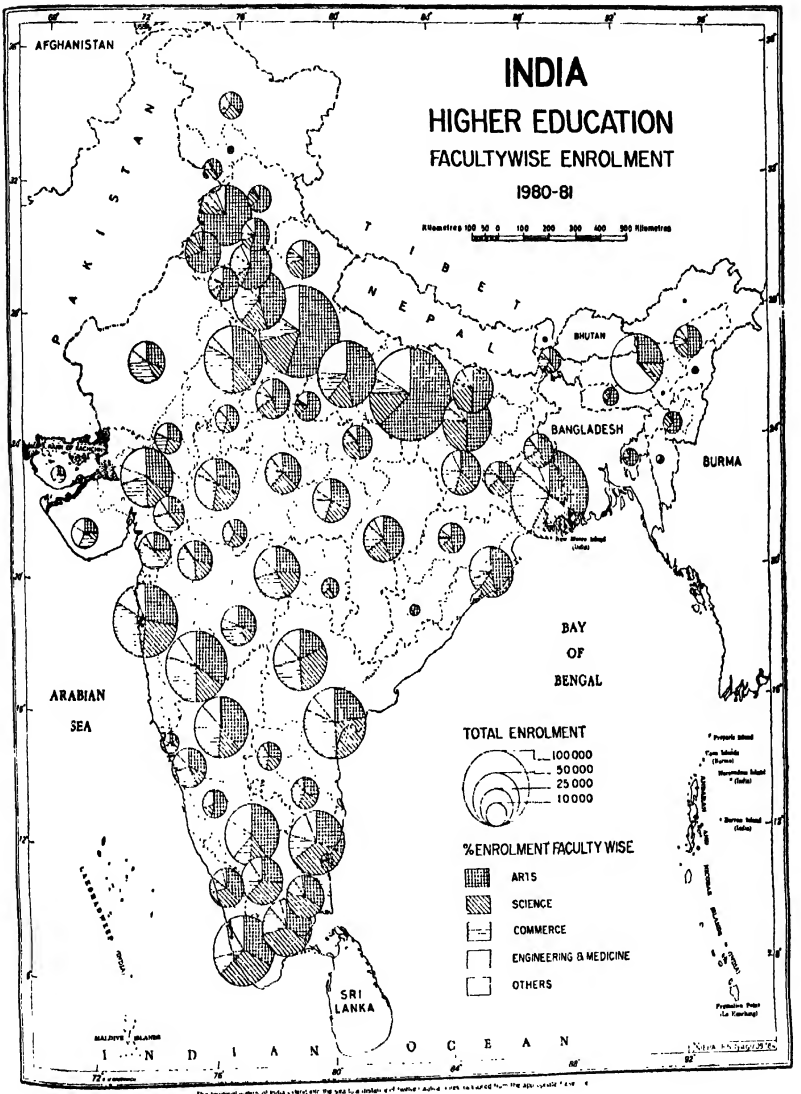

INDIA
HIGHER EDUCATION
FACULTYWISE ENROLMENT
1980-81
AFGHANISTAN
PAKISTAN
TIBET
NEPAL
BHUTAN
BANGLADESH
BURMA
BAY
OF
BENGAL
ARABIAN
SEA
SRI
LANKA
I N D I A N O C E A N
TOTAL ENROLMENT
100 000
50 000
25 000
10 000
%ENROLMENT FACULTY WISE
ARTS
SCIENCE
COMMERCE
ENGINEERING & MEDICINE
OTHERS

Fig. 5

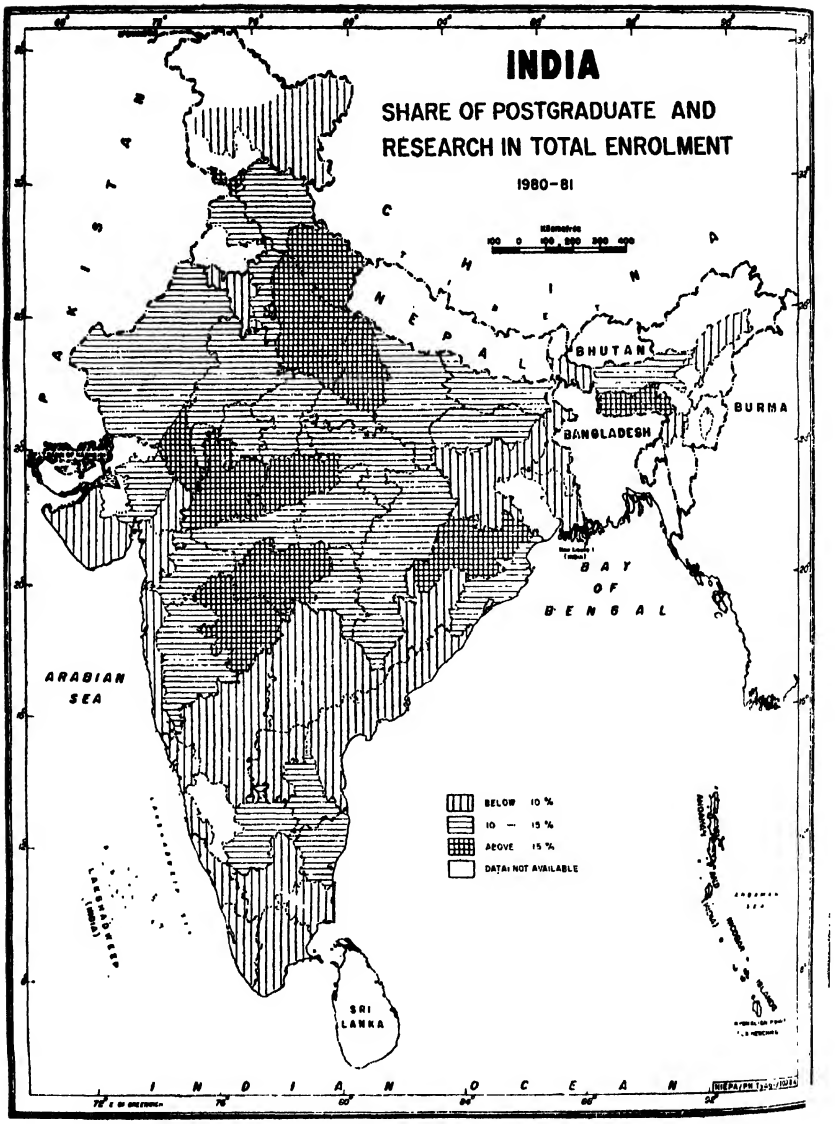

INDIA
SHARE OF POSTGRADUATE AND
RESEARCH IN TOTAL ENROLMENT
1980-81
BHUTAN
BANGLADESH
BURMA
BAY
OF
BENGAL
ARABIAN
SEA
SRI
LANKA
I N D I A N O C E A N
BELOW 10 %
10 — 15 %
ABOVE 15 %
DATA NOT AVAILABLE

Fig. 6

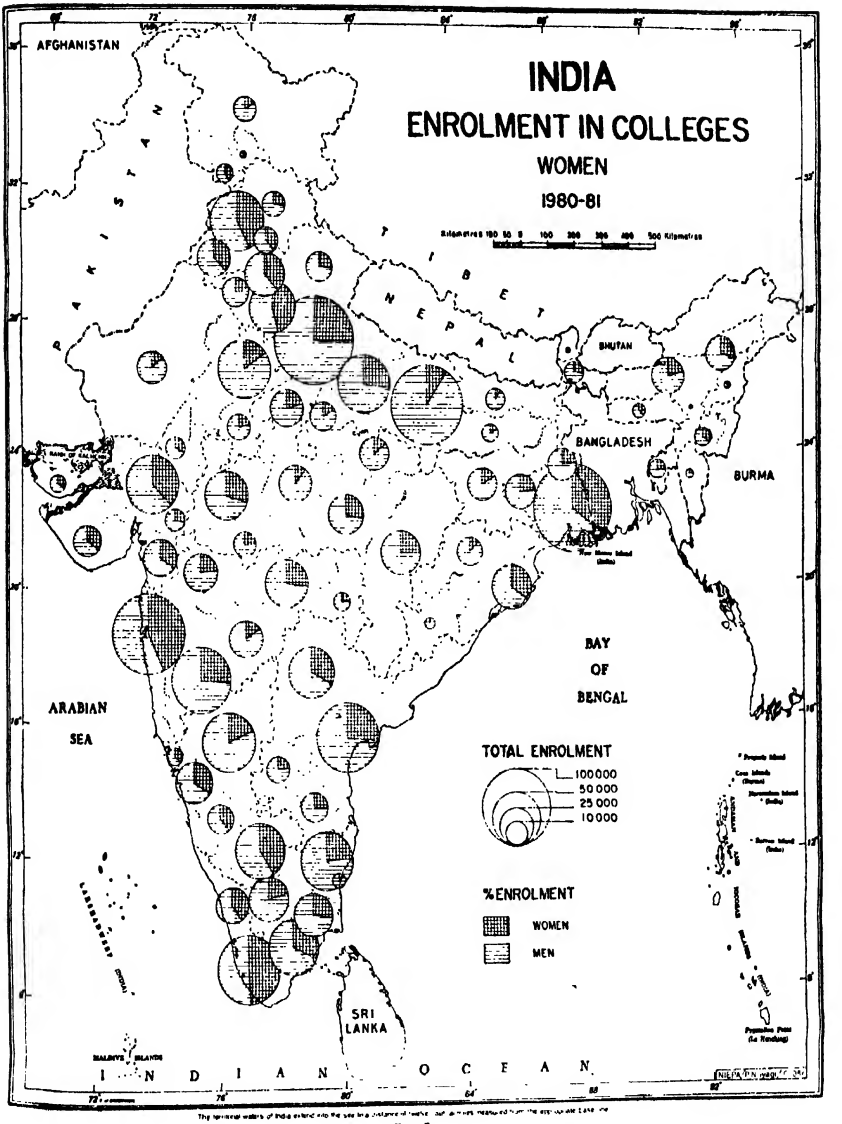

INDIA
ENROLMENT IN COLLEGES
WOMEN
1980-81
AFGHANISTAN
TIBET
NEPAL
BHUTAN
BANGLADESH
BURMA
BAY
OF
BENGAL
ARABIAN
SEA
SRI
LANKA
I N D I A N O C E A N
TOTAL ENROLMENT
100000
50000
25000
10000
%ENROLMENT
WOMEN
MEN

Fig. 7

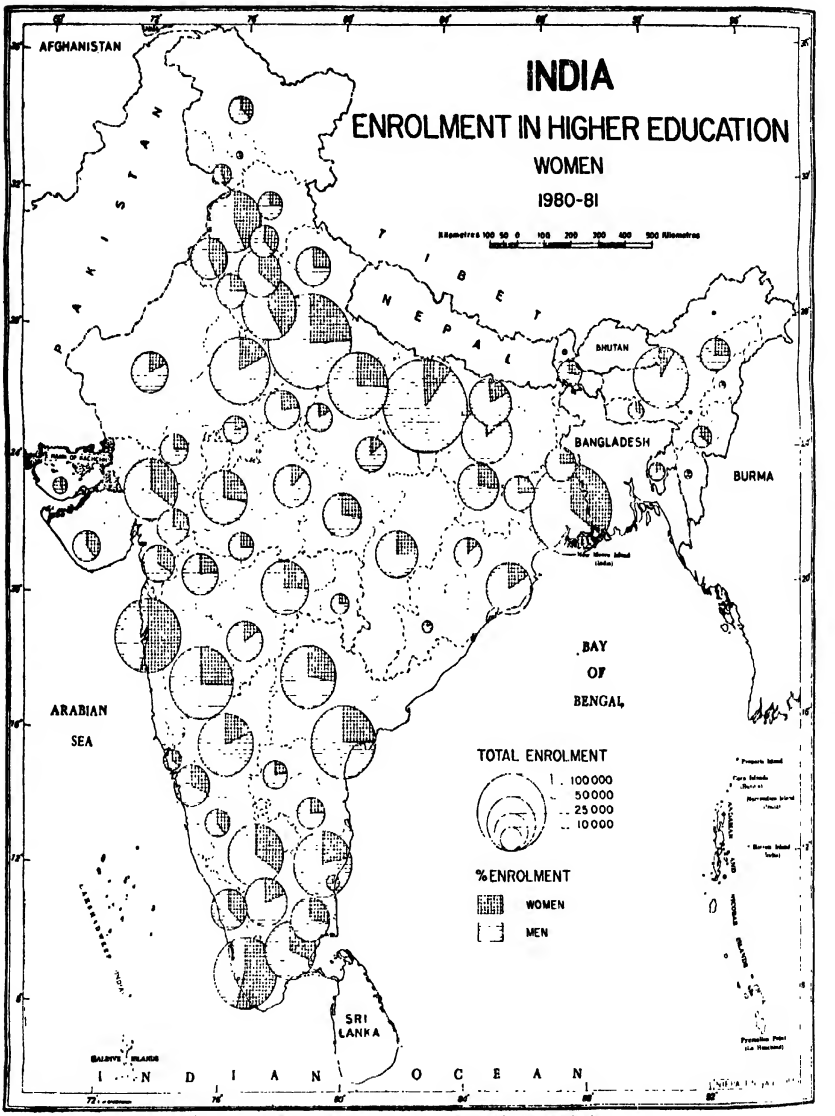

INDIA
ENROLMENT IN HIGHER EDUCATION
WOMEN
1980-81
AFGHANISTAN
PAKISTAN
TIBET
NEPAL
BHUTAN
BANGLADESH
BURMA
BAY
OF
BENGAL
ARABIAN
SEA
SRI
LANKA
I N D I A N O C E A N
TOTAL ENROLMENT
1 - 100000
50000
25000
10000
%ENROLMENT
WOMEN
MEN

Fig. 8

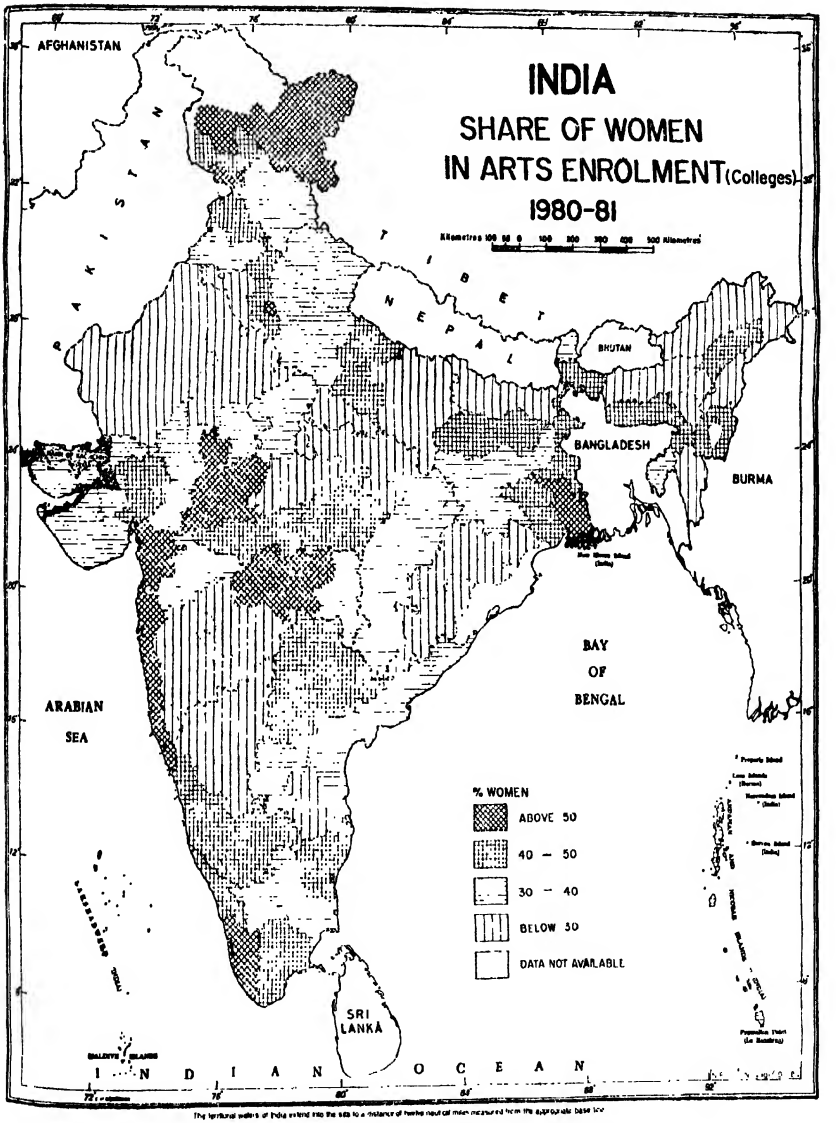

INDIA
SHARE OF WOMEN
IN ARTS ENROLMENT (Colleges)
1980-81
AFGHANISTAN
PAKISTAN
TIBET
NEPAL
BHUTAN
BANGLADESH
BURMA
BAY
OF
BENGAL
ARABIAN
SEA
SRI
LANKA
I N D I A N O C E A N
% WOMEN
ABOVE 50
40 - 50
30 - 40
BELOW 30
DATA NOT AVAILABLE

Fig 9

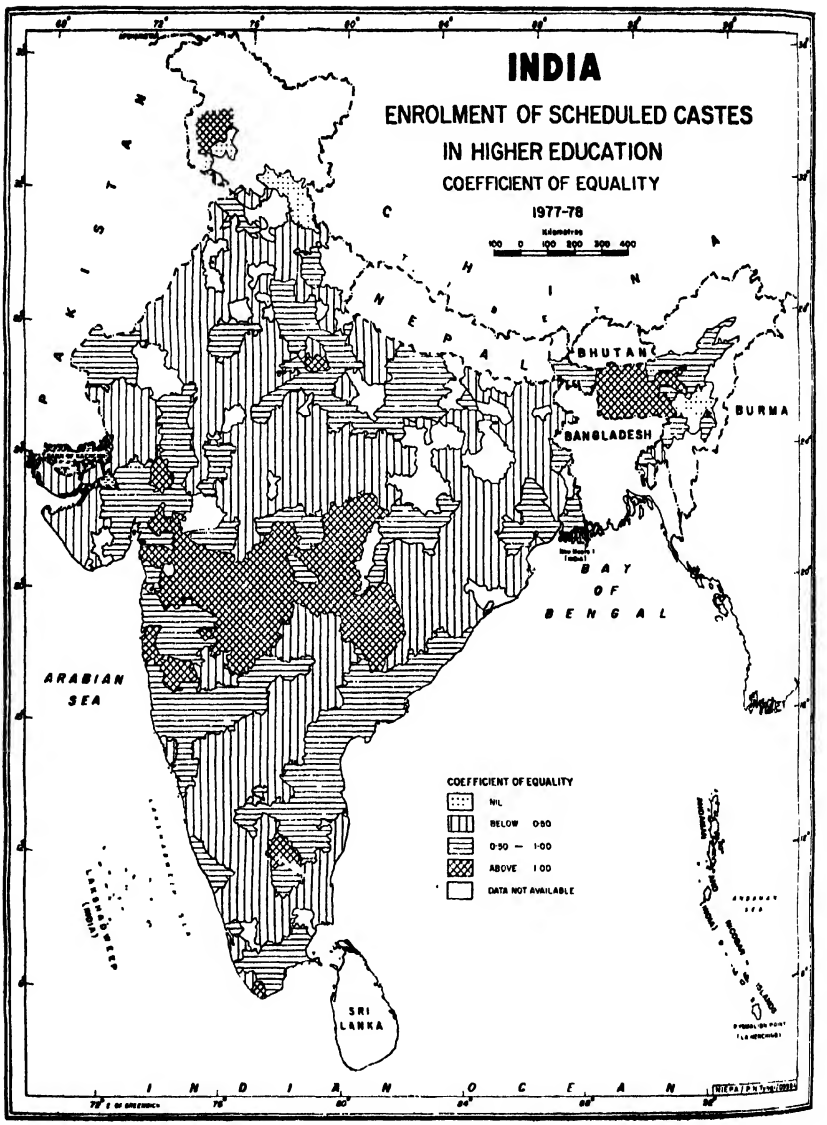

INDIA
ENROLMENT OF SCHEDULED CASTES
IN HIGHER EDUCATION
COEFFICIENT OF EQUALITY
1977-78
Kilometres
100 0 100 200 300 400
PAKISTAN
CHINA
NEPAL
BHUTAN
BURMA
BANGLADESH
BAY OF BENGAL
ARABIAN SEA
SRI LANKA
INDIAN OCEAN
COEFFICIENT OF EQUALITY
NIL
BELOW 0·50
0·50 — 1·00
ABOVE 1·00
DATA NOT AVAILABLE

Fig. 10

Our Contributors

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Ruddar Datt Principal, School of Correspondence Courses and Continuing Education, University of Delhi. He has made significant contribution by writing papers and articles for various national and international seminars on Distance Education.

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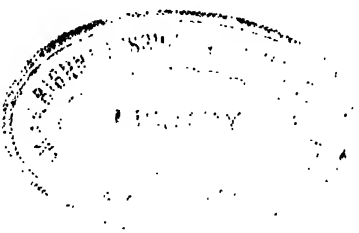

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